MERICAN GAS ASSOCIATION

Monthly

ECEMBER
1949

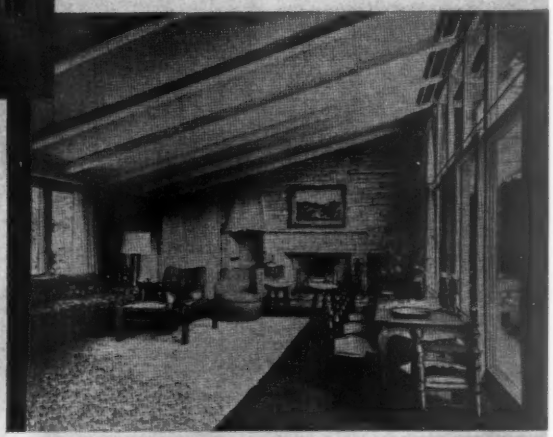
Three Views of the PACE-SETTER HOUSE for 1949:

Above: Contemporary design is reflected in this exterior picture of the Pace-Setter House.

Left: Automatic gas appliances fit in with functional cabinets in this labor-saving kitchen.

Below: "The Great Room", a complete living unit in itself, is a feature of the Pace-Setter House.

Photos of Pace-Setter House for 1949 courtesy of House Beautiful Magazine. Emil A. Schmidlin, Architect, and Miss Ellis Leigh, Designer, East Orange, N. J.



Yes, when it comes to having *all the comforts of home*, smart homeowners choose gas — for cooking, for refrigeration, for hot water, for laundry drying, for heating the home!

Look, for example, at House Beautiful's "Pace-Setter House" in Seven Oaks Park, Orange, N. J. The November issue of House Beautiful, now on newsstands, is devoted to pictures and information on this house, which is open to the public, Monday through Saturday from 1 to 6 p.m. (A nominal fee is charged. Proceeds to be devoted to charity.)

Here is a residence designed to give the ultimate in comfortable living, together with the finest in design and decor.

Nothing was spared in building this home . . . and, of course, *gas was chosen as the ideal fuel* for

the automatic gas range . . .
the silent gas refrigerator . . .
the automatic water heater . . .
the automatic clothes dryer . . .
the air-conditioning heating system.

For the finest in Comfort and Convenience
GAS has got it!

PUBLIC SERVICE

A-1[illegible]

● One of a series of advertisements used by New Jersey utility to publicize House Beautiful magazine's 1949 all-gas Pace-Setter House. Story on page 33

This month's cover: The farmer's mail box is an important figure in a nation festive with Christmas hope and cheer. Photo by Vachon, Standard Oil Co. of New Jersey

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EVER more aware of the individual's importance in a modern industrial society, the gas industry learns this month of successful approaches to two major human issues of the day—employee relations and public relations. . . . A highly constructive lead article by Dr. H. A. Lindberg describes a new concept of industrial medicine, keyed to increasing the employee's efficiency at work and at play. . . . A young gas transmission company discloses its formula for constructing, step by step, a sound program of community relations. Here is a "packaged" plan of publicity, advertising and local contacts which will help a rapidly expanding industry to make its problems understood in each new market. . . . Ernest R. Acker, first chairman of the PAR Committee, points to the tireless efforts and compromises of farsighted executives as a fundamental reason for the present strength of that program. . . . With the holiday season at hand, encouraging reports continue to pour in from the Old Stove Round Up. Particularly significant is the news that gas range shipments set an all-time record in October. . . . Merry Christmas and a fruitful new year!

JAMES M. BEALL
MANAGER, PUBLICATIONS

JAC A. CUSHMAN
EDITOR

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ESSONS ON TUBERCULOSIS
TB IS NOT INHERITED
IS CAUSED BY GERMS
CAN BE CURED
CAN BE PREVENTED
LTHY PEOPLE PICK UP TB FROM SICK PEOPLE
CONTACT
KISSING
SPITTING
EXCHANGING THINGS
TB GERMS CAUSE TUBERCULOSIS
TB GERMS ARE TINY PLANTS RELATED TO YEASTS AND MOLDS
MILLIONS OF GERMS CAN BE FOUND IN THE MATTER SICK PERSONS COUGH UP AND SPIT OUT
AN BE CURED BEST WHEN DISCOVERED EARLY
WRONG
RIGHT
I HAVE A COUGH!
I LOST WEIGHT!
MY APPETITE IS GONE!
The X-RAY DISCOVERS TB BEFORE A PERSON KNOWS HE IS ILL
I FEEL FINE!
THE X-RAY FINDS IT EARLY
D SYMPTOMS COME LATE
PPING THE TRAVEL OF TB GERMS PREVENTS TB
MS DO NOT CRAWL OR FLY. TO GET THEY MUST
COVER UP COUGHS AND SNEEZES
BEWARE OF GERM-SOILED THINGS
BY YOUR TUBERCULOSIS ASSOCIATION—PAID FOR BY CHRISTMAS SEALS

Medicine and the inner man

By DR. H. A. LINDBERG

Medical Director
The Peoples Gas Light & Coke Co.
Chicago, Ill.

Constructive medicine in an employee relations program represents a newer approach to the field of industrial medicine. Industrial medicine per se is as old as the art of medicine itself.

The changing concept of industrial medicine—from surgery to preventive—is due in part to the decline in occupational injury and disease, and in part to the realization that most of all the lost time in labor turnover is caused by non-occupational illness. As an example, during the past year in our plant the cost of industrial injury amounted to something over $26,000 with an hourly loss of 18,000 hours. The cost of non-industrial illness was around $275,000 with somewhat over 200,000 hours lost.

It is therefore easy to see in which direction our future undertaking should lie. Because of our present knowledge of its causes, because of our present plans in industrial hygiene and plant sanitation, occupational disease should no longer occur.

Air-borne irritants, such as dust from fumes and gases, have long been serious hazards, and modern ventilating devices have improved the working atmosphere to such a degree that many toxic diseases have thus been prevented. Today, any instance of heavy metal poisoning, silicosis, lead and nitrate poisoning, is evidence of neglect on the part of both the industrial doctor and management—just as an epidemic of milk-borne typhoid is evidence of neglect on the part of public health officers. If it does occur, it means poor housekeeping, sanitation, and negligence. Improved lighting, better construction of working places, better safety devices, all act as preventive measures.

Abridged version of paper presented before Technical Section during 1949 A. G. A. convention. Photo on opposite page courtesy Standard Oil Co. of N. J. (Parks).

The industrial medical department is no longer just a first aid station for on-the-job care of any injury. We have gone beyond that point of thinking in terms of workmen's compensation for industrial accident—the responsibilities of industry in this case toward its employees as a result of injury. We are beyond that point of industrial safety hazards that had to do with dust exposure, dangerous machinery, and control of temperature and lighting systems. Such aspects of industrial medicine are now taken for granted and are a matter of routine, although constant vigilance is still extremely necessary.

A new industrial danger lies just over the horizon. We must not forget that before long we shall be dealing with a whole new environment in industry as a result of the commercial development of atomic energy. But even now the hazards of its manufacture are also realized so that adequate protection of the worker is developing hand in hand with the utilization of nuclear products.

We must then turn our thoughts and principles of industrial medicine to the conviction that the human system is so built as to be able to continue living for a period of years which exceeds its present life span. There is no doubt that years can be added to life expectancy if the living organism is guided by principles of hygiene in preventive medicine.

Organized medicine, as well as industry itself, has been negligent in realizing the possibilities of industrial medicine. In speaking about medicine for the masses and medical care for individuals, neither has understood that diseases like tuberculosis, cancer, syphilis and other venereal diseases, malnutrition, and degenerative diseases, such as high blood pressure, arteriosclerosis and diabetes, can be prevented best by utilizing the machinery which controls and motivates large groups of people.

If we realize that every industrial organization includes a very closely knit group of employees, and that the obligation of industry lies towards the welfare of its employees, we have at our disposal the means of a strong preventive medicine program. For instance, in our own company, we were able to start a venereal disease control program and

a tuberculosis control program as far back as 1938, long before any community drives were established. It has been shown in other industries as well, that more cases of tuberculosis were screened through industry than through any community sponsored program. Mass studies or surveys of any kind can best be done here.

Industrial medicine contends that we must cease looking upon the working man solely as an eight-hour day problem in which only his occupational environment and his working day health are of immediate concern to management. The worker is a member of society whose working, playing, and living is a 24-hour a day problem and his entire welfare, be it at home or at the shop, is of definite and vital interest to industry.

The objective of medicine in industry is to apply the art of medicine with the view of attaining and maintaining optimum health conditions among company personnel. It is directed at absenteeism, lengthening the span of life and working potentialities, and increasing general efficiency for the benefit of both employee and employer.

Most concerns today set aside a sizable budget for scientific investigation, to find new products, create new markets, and to develop better techniques for the manufacture and distribution of these products. Industry employs experts to study and maintain their expensive and complicated machinery so that the mechanism will be preserved at its maximum efficiency. It is logical therefore that allowance be made for the care and maintenance of the human factor. It is this factor endowed with the faculty of self discernment and creative genius that is of far greater importance than mere machinery. Preservation of this delicate human factor is the problem of medicine in industry.

Basically, industrial medicine applies this science to four main phases—curative, sanitation and hygiene, preventive and constructive medicine. The medical staff in any industrial medical department must work in close cooperation with employment and personnel departments and the safety division concerning the industrial problems in general, as well as the over-all policy.

The curative phase of industrial medicine is closely allied to the preventive problem. Needless to say, it is the industrial physician who often sees the employee in the earliest phases of illness. It is here that we have the opportunity of seeing an actual disease or infection in its incipiency, for the medical department in industry should be equipped with the necessary tools to make an accurate and complete diagnosis of the actual illness. The information acquired by these facilities can be turned over to the employee's own family physician with the medical department cooperating in every way to help the employee get well as quickly as possible.

Dr. Lindberg tells how preservation of the "delicate human factor is the problem of medicine in industry"

In our organization, visiting nurses are dispatched at frequent intervals to give actual bedside nursing. A welfare worker from the personnel department makes home calls to aid the family of the breadwinner who is ill. One of the nurses from the medical department is assigned as a liaison officer between the patient, his family, or the doctor and the hospital, in order to see that his progress is satisfactory and to assure the patient of the company's goodwill and willingness to help in every possible way.

The progress and cure of occupational illness has gone hand in hand with the progress and cure of diseases outside industry. Antibiotics, such as penicillin, streptomycin, chloromycetin, help in the rapid recovery from infections. The use of such things as BAL in heavy metal poisonings eliminates the dread danger of these poisonings.

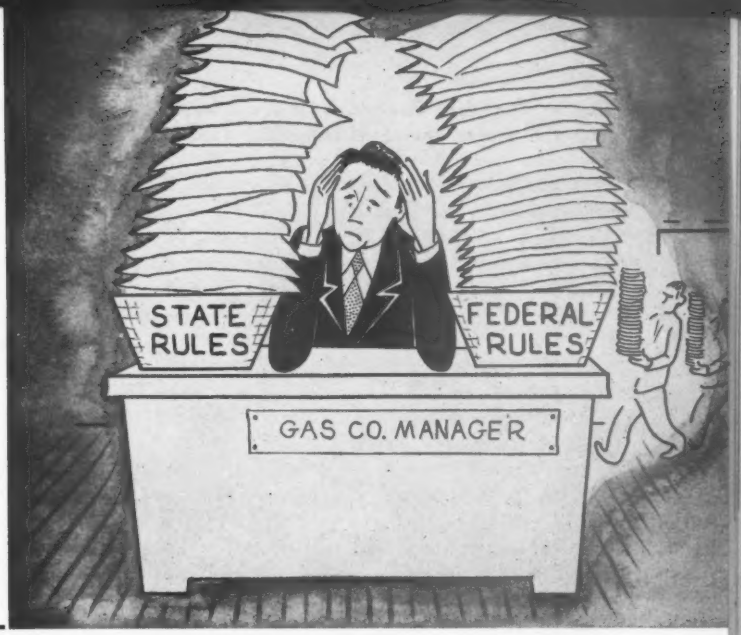
Our safety and first aid program go hand in hand. Our safety program today has developed beyond the point of dangerous machinery, poor sanitation and working conditions. It deals mainly with the prevention of the usual every-day accidents and the usual incidence not associated particularly with occupational hazards. In fact, there should no longer be occupational hazards if plant sanitation and hygiene in the worker's environment is well controlled. Thus the present day safety program has resolved itself down to stressing the usual every-day hazards of falling, stumbling, misuse of tools, poor housekeeping, automobile driving and carelessness.

It is important for both supervisors and safety directors alike to realize that only 15 percent of accidents are due to mechanical and environmental factors and that 85 percent or more are due to emotional factors. One out of four employees has emotional problems sufficient to be detrimental to safe and efficient work. These are accident prone employees and must be handled accordingly for no matter what safety factors are involved, how religiously they are taught, they will constantly be getting themselves into positions of danger.

About five percent of all employees are responsible for the majority of all industrial accidents. The handling of such employees depends upon close cooperation between the safety director, personnel department and top management, as well as the medical department.

First aid in any industry should be concerned with the problems that might arise from injuries occurring in that specific industry. Most first aid courses are too generalized and non-specific and may deal with functions that have nothing to do with injuries that may occur in this specific industry. Most first aid courses are designed around the Red Cross first aid instruction book which gives a generalized first aid picture. However, if certain specific often repeated injuries are dramatized and *(Continued on page 40)*

Why duplicate regulation?



By HARRY M. MILLER[1]

President, National Association of Railroad and Utilities Commissioners

The right of the states and of the federal government to regulate businesses affected with a public interest, each in its proper province, has long been accepted. Limitation upon the extent of the exercise of that right has become narrower and narrower—and this too has been accepted, or at least tolerated.

The principle that there should be no hiatus in regulation is likewise generally accepted. The question which remains unsettled is: In which division of government, the states or the Congress, shall the responsibility of regulation be vested? Or perhaps, for clarity: What phases or activities of public utility enterprises should each, the states and the Congress, regulate?

Sound answers to these questions must be found in the experience of our country and in the character of the situation to be regulated. Considerations of personalities, theories and philosophies are not sufficient.

Throughout the history of the gas industry, as existing sources of supply became exhausted and greater demand was made, new sources have been obtained from greater and greater distances. By 1938 the industry had approximately 180,000 miles of pipelines. Natural gas was being supplied to over seven million customers, a high percentage of which moved in interstate commerce.

The magnitude of the industry therefore invited widespread public interest. Practices within the industry which were inimical to the public interest, and which were beyond the jurisdiction of the states became evident. Certain segments of the industry had successfully sought freedom from regulation by the states and therefore from any regulation on the ground that they were engaged in interstate commerce. The states in return urged federal action, and in 1938 the Natural Gas Act was enacted. Three years earlier electric utilities for similar reasons had been brought under federal control by the Federal Power Act of August 1935.

The state regulatory commissions, all of them I think, believed that the jurisdiction which the courts had held they possessed, had been preserved to them by these acts. They had good causes for their belief. No substantial charges had ever been made that within their sphere they had not done a good and sufficient job. As a matter of fact, it was in a considerable measure the activity of some of the state commissions in attempting to provide effective regulation that these acts were passed. It was therefore with hope and promise for advancement in state and interstate regulation that the Federal Power Act and the Natural Gas Act were accepted.

The president of National Association of Railroad and Utilities Commissioners in his annual address to the Association on October 15, 1935, within less than two months after the enactment of the Federal Power Act, said:

"It is with a great deal of satisfaction that I refer to these federal enactments (referring to the Federal Power Act, the Motor Carrier Act, and others) and to the complete manner in which the rights of the states have been protected. . . . We may properly take a great deal of satisfaction that the field of state regulation as respects these utilities has been so well protected."

But faith that their jurisdiction would not be molested was assured from a more authoritative source. In his address to the same association at the same convention, Claude L. Draper, then as now a member of FPC, said, concerning the Public Utility Act of 1935:

"The new Utility Act, in these provisions for assistance to state regulatory authority, proceeds upon the sound assumption that the power industry is primarily a local industry and that the primary regulation of the industry should rest with the state. The new Act asserts federal authority only to the extent which is necessary to make secure the primary state control by closing up the gap in public regulation. The Act specifically provides against any encroach-

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Abridged version of paper presented at general session during 1949 A. G. A. convention.

[1] Also a member, Public Utilities Commission of Ohio.

ment by the Federal Power Commission upon the proper sphere of the state. While the control of the interstate wholesale rates which is constitutionally beyond the power of the state is conferred upon the Federal Commission, the Federal Commission is ordered by the Act to keep its hands off the local rates and that prohibition upon the Federal Commission applies even to those cases where the energy locally distributed is the subject of interstate commerce."

What happened?

A partial answer is found in the case of Jersey Central Power and Light Company v. Federal Power Commission (1943) 63 S.Ct. 953.

FPC in that case held that the Jersey Central Co., which did no interstate business whatsoever, was nevertheless subject to the jurisdiction of the Commission solely because it exchanged power with another New Jersey company, so that some of the energy generated by Jersey Central sometimes came to be consumed in New York. This finding was made in spite of the fact that all of the activities involved were subject to New Jersey law.

The decision of the majority of the Supreme Court sustained the Commission. However, Justices Roberts and Frankfurter, dissenting, said:

"The nature of Jersey Central's dealing with Public Service certainly does not fairly fall within the scope of the statutory description of the 'business' of transmitting and selling electric energy in interstate commerce. But, out of abundance of caution, Congress added that the federal regulation should extend only 'to those matters which are not subject to regulation by the States.' Language could not be plainer, nor more clearly exclude the present case. Congress desired to fill the gap left by the inability of the states to regulate certain forms of interstate transmission and sale. Congress made clear that it intended to go no further. The opinion of the court ignores this fundamental declaration of purpose and policy and reads as an independent mandate in vacuo the words of subsection (e). This I think is not a fair construction."

Recently, in an address in Cleveland, Commissioner Spencer B. Eddy, New York Public Service Commission, stated:

"Having seen what one federal agency—one not connected with the telephone industry—has attempted to do in its effort to destroy state regulation, we have a justified fear of intrusion by any new Federal regulating agent within our state. We fear the Greeks even when they bear gifts."

Experience with Federal action under the Natural Gas Act is not wanting. My own state is presently engaged in an effort to sustain in the United States Supreme Court the decision of the United States Court of Appeals for the District of Columbia Circuit rendered in the case of The East Ohio Gas Company v. Federal Power Commission, decided February 14, 1949, wherein the Court held that East Ohio was not a "natural gas company" as defined in the Natural Gas Act.

The company is an Ohio corporation and for a half century has been engaged in the direct local distribution of natural gas. It serves over half a million consumers in 69 Ohio municipalities including Cleveland, Akron, Massillon and Youngstown. In each of these municipalities it has a local franchise and sells direct to domestic, commercial and industrial consumers under rates either fixed by local ordinance or approved by the Public Utilities Commission of Ohio.

Local distribution

It sells no gas to distributing companies for resale, transports no gas for hire, sells to no industrial consumers except through local distribution lines, and it is conceded that it has no rates or services for others subject to FPC jurisdiction. Three-fourths of its supply comes from sources outside the State of Ohio, which it receives from interstate pipelines and for which rates are fixed by FPC. High pressure lines transmit the gas from points of delivery from the pipelines to its city plants.

The company has been subject to regulation by the Ohio Commission since the adoption of the Public Utilities Act in 1911. Every phase of the company's activity, rates, financing, accounting and all other matters are the subjects of regulation under the Ohio statutes.

In its Opinion No. 158 on Rehearing issued November 7, 1947, FPC said:

"Still another contention is that regulation by this Commission will partially duplicate what is characterized as complete regulation by the State of Ohio. That contention apparently serves as premise for a claim that action by this Commission would, in these circumstances, constitute an invasion of the regulatory area assertedly reserved by Congress to the State. But this conclusion is supported by neither the language nor the history of the Act, even if its premise were sound.

"Let us, however, examine the premise. There is here no significance to the point, repeatedly made, that East Ohio has no property or activities outside Ohio. Even though that be true, the State of Ohio lacks power to confer upon its Commission authority to require a certificate of public convenience and necessity for a transmission line used solely for transporting out-of-state gas, as for example, East Ohio's 112-mile line connecting with Panhandle....

"As was said in Connecticut Light & Power Company v. Federal Power Commission, 324, U.S. 515, 533, with respect to jurisdiction under similar provisions of the Federal Power Act: '... once a company is properly found to be a *public utility* under the Act of the fact that a local commission may also have regulatory power does not preclude exercise of the Commission's functions'."

In its brief on the East Ohio case in the Court of Appeals, counsel for FPC states:

"Beyond the point where petitioner's transmission lines connect with its 'local systems'—that is, the town-border stations—jurisdiction clearly rests with the state. But petitioner's transportation up to that point, the Supreme Court said in unmistakable language, is interstate commerce national in character. As such, it is without the regulatory jurisdiction of the state. And it is precisely that transportation which Section 1 (b) brings within the jurisdiction of Federal Power Commission."

The foregoing conclusions and opinions are made in the face of the report of the Committee of the House of Representatives which accompanied the Natural Gas Act. This read, in part:

"If enacted, the present bill would for the first time provide for the regulation of natural gas companies transporting and selling natural gas in interstate commerce. It confers jurisdiction upon Federal Power Commission over the transportation of natural gas in interstate commerce, and the sale in interstate commerce of natural gas for resale for ultimate public consumption for domestic, commercial, industrial, or any other use. The states have, of course, for many years regulated sales of natural gas to consumers in intrastate transactions. The states have also been able

Home Service Workshop to have lively program

Irene Muntz, chairman, (head of table) presiding at meeting of A. G. A. Home Service Committee in New York to develop plan of operations for new year

COMPREHENSIVE coverage of opportunities and problems facing home service in the gas industry will feature the 1950 Home Service Workshop, sponsored by the Home Service Committee of American Gas Association. The three-day event will be held at the Palmer House in Chicago, January 4-6, 1950. Planning for the Workshop has been completed by a program committee comprised of Irene L. Muntz, home service director, Rochester Gas & Electric Corp., and chairman, A.G.A. Home Service Committee; Elizabeth J. Lynahan, home service director, The Peoples Gas Light & Coke Co., Chicago; Jessie McQueen, home service counselor, A. G. A.; Mrs. Kathryn C. Johnson, home service director, Rockland Gas Co., Inc., Spring Valley, N. Y., and Eleanor Morrison, home service director, Michigan Consolidated Gas Company.

Valuable subject matter including conference discussion has been scheduled for each of the three-day sessions. Gas industry and guest speakers will highlight home service achievements and methods. Qualified specialists on the program will include F. X. Metenett, vice-president, The Peoples Gas Light & Coke Co., Chicago, Ill.; H. Preston Morehouse, Public Service Electric & Gas Co., Newark, N. J.; R. E. Ginna, vice-president, Rochester Gas & Electric Corp., N. Y.; W. J. Schmidt, Long Island Lighting Co., Mineola, N. Y., and E. Carl Sorby, vice-president, Geo. D. Roper Corp., Rockford, Illinois.

In a symposium "Here and there with Home Service," eight directors will discuss important activities.

How to improve the efficiency of a home service department will be highlighted in presentations "Setting Up a Year's Program," "Planning the Demonstration" and "Make the Most of the Home Call." Demonstrations and skits, films and exhibits will add variety to the program.

Meeting at American Gas Association headquarters on Friday, November 4, 18 members of the Home Service Committee developed a plan of operation which covers the Workshop in Chicago. Irene Muntz presided as the new chairman of the committee.

A demonstration contest, with the funds provided by the manufacturers of "CP" ranges, will be announced to the industry in December with the contest closing March 15, 1950. A picture supplement to the booklet "Home Service Demonstration" will be set up by the committee this year and a basic outline of a new booklet "Home Service Aims and Organization" will be started as part of a two-year project.

Six of the 1950 Residential Section Committees have asked for home service representation and since these representatives serve as members of the Home Service Committee, their projects will be included as part of the home service plan of work.

Present in the accompanying picture taken at the planning meeting were: (left to right) Ella A. Heyne, Northampton Gas Light Co.,

(Continued on page 44)

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to regulate sales to consumers even though such sales are in interstate commerce, such sales being considered local in character, and in the absence of congressional prohibition subject to state regulation.

"There is no intention in enacting the present legislation to disturb the states in their exercise of such jurisdiction. However, in the case of sales for resale, or so-called wholesale sales, in interstate commerce (for example, sales by producing companies to distributing companies) the legal situation is different such transactions have been considered to be not local in character and, even in the absence of Congressional action, not subject to state regulation. The basic purpose of the present legislation is to occupy this field in which the Supreme Court has held that the states may not act."

It should be noted that the Commission in the opinion from which I have just quoted said:

"The finding that East Ohio is, by reason of its operation of this transportation system, a 'natural gas company' will, as we view it, in no manner interfere with the exercise by the State of Ohio of its authority to regulate the operations of the company in its business of local distribution—the field of regulation which the Congress has clearly reserved to the states."

As a member of the Ohio Commission, I trust that I merit no censure when I assert that this statement is not correct. In my opinion, and for the reasons I shall give, *(Continued on page 44)*

AMERICAN GAS ASSOCIATION

420 LEXINGTON AVE

MURRA

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PAR Plan from the

By ERNEST R. ACKER*

Past-President
American Gas Association
New York, N. Y.

In the early part of World War II American Gas Association appointed a Post-War Planning Committee to study the many basic problems then confronting our industry. This committee, under the able leadership of Alec Beebee, Rochester, N. Y., did one of the most careful, complete and authoritative jobs ever accomplished by an industry committee. It left no stone unturned in its examination of the industry's position in a world of rapidly changing economics and potentially serious competition.

After months of exhaustive self-appraisal of the gas industry, the committee submitted its findings with suggested action to capitalize on our assets and to overcome our weakness. This report fixed the base line for the development of the industry's original Research and Promotional Plan which has, in fact, implemented the recommendations of Mr. Beebee's committee.

Opening gun in support of the new program was fired by Paul McKee of Portland, Oregon, at the A.G.A. Executive Conference in the spring of 1944, when he proposed that a substantial fund be raised, by voluntary subscription of member companies, to finance increased promotional, advertising and research activities of the industry. With characteristic vigor and conviction he touched off the spark which aroused the industry to the importance of coordinated action in these fields. Later was installed as chairman of a special committee to draft a specific plan for presentation to the industry and faced the task of finding the least common denominator which would win the support of the majority of our member companies.

In June 1944 a group of some 50 gas industry executives met at Chicago in all day session to present their views on the most pressing needs of the industry. One group proposed a program involving the expenditure of $3 million annually for promotion, advertising and research. Another group felt that an amount of $2\frac{1}{4}$ million dollars should be spent annually on a national radio and advertising program alone. Still another felt that gas production research should take precedence over all else and should be financed to the extent of at least $1 million per year. One can readily appreciate that this group represented technically-minded executives who felt that the manufactured gas industry had nothing to promote or advertise until it had developed lower cost gas production processes.

It is everlastingly to the credit of the gas industry that this group of executives reconciled their views and developed a joint conclusion to which they pledged their support for the good of the industry as a whole. The recommended program involved total expenditures of $1,400,000 per year for a three-year period: $800,000 for advertising, or double the then current program; $200,000 for promotion, or quadruple the previous expenditures for such purposes; and $600,000 for research, a substantial increase over prior expenditures.

Subsequent developments are past history. Suffice to say that the program was launched on this basis and received the widespread support of the industry which subscribed its full share of the total fund for the first year in a 90-day period. A small share of the fund allo-

* President, Central Hudson Gas & Electric Corp., Poughkeepsie, N. Y.; also first chairman, Committee on Gas Industry Research and Promotion Plan.
Presented on October 18, 1949 at Technical Section meeting during A. G. A. convention.

ecutive's viewpoint

cated to manufacturers was worked out subsequently on a modified basis.

One particular statement made by the first Plan Committee, of which I had the honor to be chairman, is fully as valid today as it was in 1944:

"The future of the gas industry is in its own hands. What that future may be depends to a large extent upon the initiative, intelligence and effort which the industry exerts in its own behalf. Rising costs and aggressive competition have created problems which require immediate and effective action. The industry must unite in a determined effort to improve the economics of its operations and to promote its business so that the possibilities of gas service may be realized to the fullest extent and the position of the gas industry may be strengthened as an important factor in our social and industrial structure. Such action on the part of the industry will not only preserve and extend its markets but will have a direct bearing on the ability of the industry to attract new capital on more favorable terms in the future than have prevailed in the recent past.

"It is obvious that financial interests are attracted by the securities of those industries which show a progressive spirit and which continually safeguard their future through substantial expenditures for research and aggressive promotional effort. It is essential, therefore, that the gas industry in its own self-interest demonstrate its faith in the future of its business by appropriating adequate funds for research and promotional development."

This is the basis on which the industry supported the plan during its first three years of operation and on which it has continued to support a modified plan since that time. Administration of that plan has been in the hands of highly capable industry committees. The funds have been handled with extreme care and unusual foresight. They have been allocated to those activities which would bring the most immediate benefits to the greatest number of member companies.

The present PAR Committee, which took over at the end of the first three years under the stimulating leadership of Robert A. Hornby, San Francisco, has refined the administrative techniques of the early years and has carried on a highly effective program at a somewhat higher annual rate of expenditure. This increased rate of expenditure reflects chiefly the carry-over of funds unexpended during the original three-year period and the growth in total subscriptions reflecting the increased total revenues of the industry. Over-all performance to date has been an important factor in the improved position of the gas industry. I am confident that this great cooperative undertaking of the gas industry will continue to produce substantial results.

Mr. Acker speaks with the authority gained as first chairman of the Association's PAR Committee

Now to review some of the high points of experience to date and show how they are related to the future of the gas business. Looking first at the research field, here is a further quote from the original presentation of the Plan Committee:

"Research is the life blood of progress. The great industries of this country, some of which are the direct competitors of the gas industry, appropriate millions of dollars annually for the development of new and improved products and processes. The expenditures of the gas industry for these purposes have been negligible by comparison. The prospective competition of the postwar period demands that the industry adopt a long-range program of fundamental research looking to the development of improved technical processes and more efficient, convenient and reliable appliances for the use of its customers.

"Research is the greatest single need of the gas industry today. It stimulates progress and provides protection to the basic economics of our business. In a changing world we cannot stand still nor depend on the accomplishments of the past. We must prepare immediately for the intense competition of the postwar world and insure the maintenance of the position of gas as the ideal fuel."

These were not empty pronouncements—they were concerned with the most fundamental needs of our business. I take pride in the fact that our industry recognized such needs and provided funds for research in spite of the fact that they could not hope for tangible returns for a considerable period of time.

One of the most important recent problems of the industry, affecting both the manufactured and natural gas sections, has been the production of peak load gas. It was clearly indicated that this was the first major project to be undertaken by the Gas Production Research Committee. As a result of their

efforts, two highly promising production processes have been developed—catalytic reforming and regenerative high Btu oil gas.

Catalytic reforming converts hydrocarbons—natural gas, for example—into carbon monoxide and hydrogen through the use of a heated catalyst bed. Although originally developed as a peak load process, this operation is ideal as a base load process for localities supplying natural and manufactured gas mixtures. As now commercially developed, the process makes possible low investment and labor costs and permits continuous and largely automatic production in small plant units, if desired, which can be located at strategic points to relieve peak load conditions in distribution systems.

Five commercial installations have already been made: two in Long Island Lighting Company's system and others at Reading, Allentown, and Harrisburg, Pa.

The second major development is the Hall high Btu process which involves the manufacture of low-cost gas from the heavier high carbon oils. Considerable interest has been shown in this process both here and abroad and several new installations are now being made.

A collateral project, mixed gas research, is of particular importance at this time when it is necessary in some instances to mix several different gases to meet peak load requirements. Four practical reports have been issued indicating interchangeability of some 30 supplemental gases with the normal base load gases of the industry.

In the field of natural gas, timely research is being conducted under the Technical and Research Committee of the Natural Gas Department on such matters as the improvement pipeline flow formulae, the removal of nitrogen for the upgrading of gas from certain fields, the prevention of hydrate stoppage and the factors included in the control of natural gas condensate wells. Interesting work is also being conducted on several phases of metering.

Contributions to PAR make possible the fundamental research required for the protection of the gas business. The greatest fear of the PAR Committee is that contributors may become impatient for results, not realizing that while solutions may come slowly at first they will come with increasing rapidity as the long and tedious basic research gives way to practical demonstration of results.

The utilization research field which involves both domestic and industrial and commercial research projects is intended to fortify and extend the use of gas by developing basic technical knowledge of our product and its application, and to create a sound technical foundation for the improvement of gas appliances. Industrial and commercial gas research was begun in 1927 and domestic gas research in 1935. Since 1945, however, all utilization research has been conducted under the PAR Plan.

Under this type of research we have analyzed the technical features of every functional part of our utilization equipment, including ranges, water heaters, house heaters and other types of appliances. Research work involves thorough studies of all conditions of appliance use and the development of reliable technical data to improve such conditions and to meet new trends in building design and living habits. The work is directed to the principal factors which affect satisfactory performance of gas appliances —ignition, combustion and heat transfer, and the venting or disposal of the products of combustion. Technical phases of these problems have been thoroughly analyzed and bracketed and the indicated research work is under way or definitely projected.

Capable hands

Results of the utilization research program are constantly being made available to all manufacturers who may be expected to take full advantage of the technical data provided, in the design of new appliances. The work is in capable hands and gas men can look forward to continued improvement in the utilization equipment available to the industry and its customers.

So much for research. Now to review briefly the promotional and advertising features of the plan.

For many years we have struggled to attain mechanical perfection in the technical phases of our business. Remarkable contributions had been made toward the attainment of that goal. You have produced what we proudly call "the perfect fuel." In spite of this, broadminded members of a service industry should agree with the statement that "production and distribution can no longer be regarded as an end in themselves."

We are part of a business enterprise which must stand or fall on the profitable sale of our product and the good will secured from our customers. We can no longer depend upon the fact that we are a so-called "monopoly" in our field. We are faced with intelligent and aggressive competition from other fuels which are constantly being improved in quality and utilization techniques.

Under the circumstances, it is important to every member of our industry that this competition be met head on and that we maintain the initiative which is ours for the moment. This involves full use of the modern tools of advertising and promotion. We have a fertile field in which to work, for no matter how proud we may be of the engineering and operating job which we have done to date, the fact remains that large numbers of our customers cannot enjoy the good service which we provide because they have not been supplied with efficient, modern appliances.

In the case of gas ranges alone, more than half of our customers are using ranges which are absolutely incapable of interpreting the good service which provided into satisfactory and efficient performance. Of the 25 million gas ranges in service, only 25 percent are less than five years old; 50 percent are over ten years old and 25 percent are more than 15 years old. Though to a lesser extent, this condition also applies in the case of other appliances, it is apparent that there is a vast field in which to work to improve the utilization of our product.

This situation is clearly recognized in the operation of the PAR program. Inasmuch as the gas industry has no large manufacturers comparable to those of the electric industry who with their own funds carry on sustained programs of advertising, promotion and research, it seems obvious that American Gas Association is the logical agency through which funds of member companies can be pooled and their efforts combined in a united program to meet the competition of other industries at the national level.

It is estimated that the gas companies of the country normally spend over $25 million a year and that manufacturers spend an additional $5-$6 million a year in promoting the sale of gas equipment. The PAR Plan provides $1 million a year for advertising and promotional activities. Of this amount $800,000 is allocated to national magazine advertising and $200,000 to general promotional work. While these expenditures may appear small by comparison with the direct ex- *(Continued on page 47)*

Talks with local civic leaders helped this utility to tell its story

Public relations case history

It is an interesting paradox that good public relations are being maintained by many companies which do not recognize and label their actions as such.

Formal recognition of public relations as a conscious function of management has, of necessity, developed fastest and with greatest conviction in businesses close to the public, like the gas industry. An interesting case history, complete with novel overtones, is provided by a young gas transmission company whose experiences are applicable to any utility that contemplates an expansion, rate adjustments, changes in service or corporate organization.

Why did a newly-organized company, faced by an arduous schedule of financing, FPC hearings, purchasing, construction, personnel and plant expansion, make public relations a first order of business instead of waiting until its organizational structure was complete? What are the results of this realistic policy?

Texas Gas Transmission Corp., Owensboro, Ky., was formed in March 1948 by the merger of two well-established operating companies which sold gas at wholesale in Louisiana, Arkansas, Mississippi, Tennessee, Kentucky, Indiana and Illinois. One year later the company began construction of an 800-mile, 26-inch pipeline from Texas to Ohio, which is scheduled to be in service by the end of this year. By next year the entire system will have a daily delivery capacity of about 660 million cubic feet through more than 2,300 miles of pipe.

In February 1948, the month before the merger, management of the amalgamated company faced a busy period. At that time, J. H. Hillman, Jr. chairman of the board and president, W. T. Stevenson, executive vice-president, and their associates, were faced with the tasks of effecting the merger; obtaining contracts for gas supplies, pipe, and other equipment; securing bank loans and completing other financing arrangements for the project; getting FPC approval for the proposed construction; and taking care of the other elements of a major expansion program.

At the same time, the management had to face the fact that its existing system capacity was only 50 billion cubic feet of gas a year at a time when all gas utilities were beset by serious shortages.

During that preparatory month in 1948, the company retained Newell-Emmett, a New York agency specializing in public relations, advertising, financial and community relations. The executive vice-president of the transmission firm undertook the responsibility of relating public relations to the daily activities of his company. The result was an effective "packaged" operation including expert counsel and a comprehensive public-relations advertising effort. Later in 1948, an experienced public and employee relations director was hired.

From the initiation of the program, strenuous efforts were made to tell all

Material for this article was gathered with the help of John Kirtley, Texas Gas Transmission Corp., and Winsor H. Watson, Jr., Paul Kolton, Ross McKee, Newell-Emmett Company.

interested groups about the progress of the merger, securities sales, construction, and so forth. Readable, detailed and graphic information was presented to the publics concerned under a consistent communications program.

Rather than keep gas suppliers informed of progress on the new pipeline by a dry report or bare facts, the company introduced an internal-external newspaper, "Pipeline Progress." The publication was printed on coated stock with pictures, biographies, feature articles, editorials, financial information, drawings, and construction progress accounts, and proved highly successful.

Today, "Pipeline Progress" is mailed to gas suppliers, stockholders, employees, editors, investment people, and others who have requested regular copies. Its name and format are adapted for regular newspaper advertisements, special reports to insurance companies and other executives, and for a recent 40-page book on company organization and personnel.

Now for a look at the general problems and the steps that have been taken to meet them:

Stockholder relations

The merger required a solicitation of proxies. It also called for educating existing and prospective stockholders on the conditions and development of their corporation. In addition, financial writers and editors, investment advisers, and the financial community had to be kept informed.

The first quick step was to convert a long, factual solicitation of proxies for the merger into an attractive "Report to Stockholders" as a source booklet until the first annual report was issued the following year. This report introduced Texas Gas to the entire financial community.

The acquaintance was renewed through regular issues of "Pipeline Progress" and periodic factual reports prepared for the press. In addition:

(1) When the all-important FPC hearings were in progress in Washington last winter a company public relations representative was present from time to time to digest testimony for the firm's newspaper, to help reporters, and prepare and issue news releases on significant developments.

(2) For the convenience of security analysts, a complete record of testimony and exhibits of the FPC hearings was made available in a New York office.

(3) When FPC approval was received on the evening of March 30, 1949, permitting the company to move ahead with its construction program, a near-record was set in getting the news to stockholders in the first annual report. This was mailed on Monday, April 4, 1949.

(4) The 1949 annual meeting was held in New York City to enable individual and institutional stockholders to ask questions during the most important phase of the company's growth.

(5) On the twentieth anniversary of the merged companies, a factual anniversary advertisement was inserted in the major financial newspapers and in large cities in the service areas. The advertisement pointed out that Texas Gas was a new company in name only, as its operating divisions had behind them two decades of natural gas service.

During the winter of 1948-49, the public relations program was balanced between stockholder and gas-consumer relations at a time when utilities and customers alike feared a repetition of gas shortages.

The company's first move to meet possible consumer hardships during the 1948-49 winter was a combination advertising and publicity campaign to enlist consumer aid in saving gas. Colorful "Save Gas" cartoon billboards, signed by utility company customers, were posted in key cities throughout the service area. A complete "Save Gas" brochure, for use in the event of a threatened gas shortage, was prepared with radio spots, feature stories, house organ material for interruptible customers, newspaper editorial ideas, photographs and window posters. This material was discussed at the home offices of utility customers and left with an officer of each company.

Later, local cities showed such intense interest in getting gas supplies from the new pipeline project that the FPC hearings became an important news source for Washington press bureaus. Aware of this demand, the company kept newsmen up-to-date on testimony and opinions affecting their hometown audiences.

When actual construction began on the 800-mile Texas-Ohio line, Texas Gas turned its attention to relations with local cities along the right-of-way. It is almost axiomatic that understanding communities can be actively helpful in the operations of a pipeline system.

The company decided to run monthly advertisements in every small newspaper within eight miles of the right-of-way. The series was based on the format of "Pipeline Progress" and contained offers to send regular issues of the company publication to anyone requesting them. The advertisements were also localized; the name of each county was displayed prominently, necessitating 77 type changes for every monthly insertion. Copy stressed news and interesting feature information about construction along the pipeline route.

Personal visits

Before the first advertisement was published, representatives of the company and the agency paid a personal visit to every editor to tell him about the new pipeline through his area, to answer his questions about the project and to learn of any local situations that could cause misunderstanding. These visits resulted in close liaison with local newsmen—an accomplishment of tremendous value.

A remarkably complete diary of the trip provided a permanent record of the attitudes, questions and problems raised by on-the-line editors. Some of the interesting items revealed by this record are:

(1) Because they had been receiving periodic information from the company, local editors were surprisingly well-informed about the pipeline project. They raised many questions concerning supplies, service, the construction time table, etc. Discussions of these matters with Texas Gas representatives impressed editors with the fact that the company was an important element to be considered in matters of local importance. The interviews also enabled the company to better appreciate the needs and requirements of small-town newspapers.

(2) Editors liked the public relations character of the advertising campaign, which has nothing to sell and has no purpose beyond satisfying the curiosity of communities along the path of construction.

(3) Editors were almost unanimous in their request for regular news feature stories and mats for use during the construction period.

(4) Editors felt that localizing the advertisements was an unusual and valu-

able approach, adding greatly to readership.

(5) Personal interviews resulted in a knowledge and understanding of mutual problems that will be valuable in the future.

Through its advertising agency, the company also maintains a friendly public relations approach to these editors in its media contacts. The agency production and media departments go out of their way to simplify the country editor's job of handling the advertisements; they give him whatever advantage is possible in questions of insertion schedules, billings, etc.

Recently, a drive was initiated to pinpoint the on-line public relations program still further. An innovation in the gas industry was the addition of three soil conservationists and a staff of more than 50 men to the pipeline department staff to help individual landowners on the right-of-way with problems of erosion, soil fertility and crop rotation.

The soil conservationists are, in fact, public relations men for Texas Gas. A description of the work they do has been compiled in an informative booklet now being printed that will be distributed to about 9,000 landowners on the right-of-way.

Organizing an enlarged operating firm and maintaining good employee morale were two major problems that faced the company.

John Kirtley, as employee relations director, undertook the task of job classification, union negotiation, and setting up personnel procedures, while his department helped find men and women to fill new jobs in the expanding organization. During the summer of 1949 he was ready to work with department heads in drawing up lines of organization and responsibility for the entire company.

This fall, a 40-page booklet showed each employee the specific funtion and responsibility of all departments within the company. Contents were built around pictures and short biographies of over 100 personnel ranging from chairman of the board to foreman.

During the entire period of construction another modification of a legal document was published each month for mailing to insurance companies, investment concerns, utility customers and other groups. Using the "Pipeline Progress" format, an "interim" newspaper was printed in two colors to report

News and feature information about construction along the pipeline route was stressed in these advertisements which were run in every small newspaper within eight miles of the right-of-way

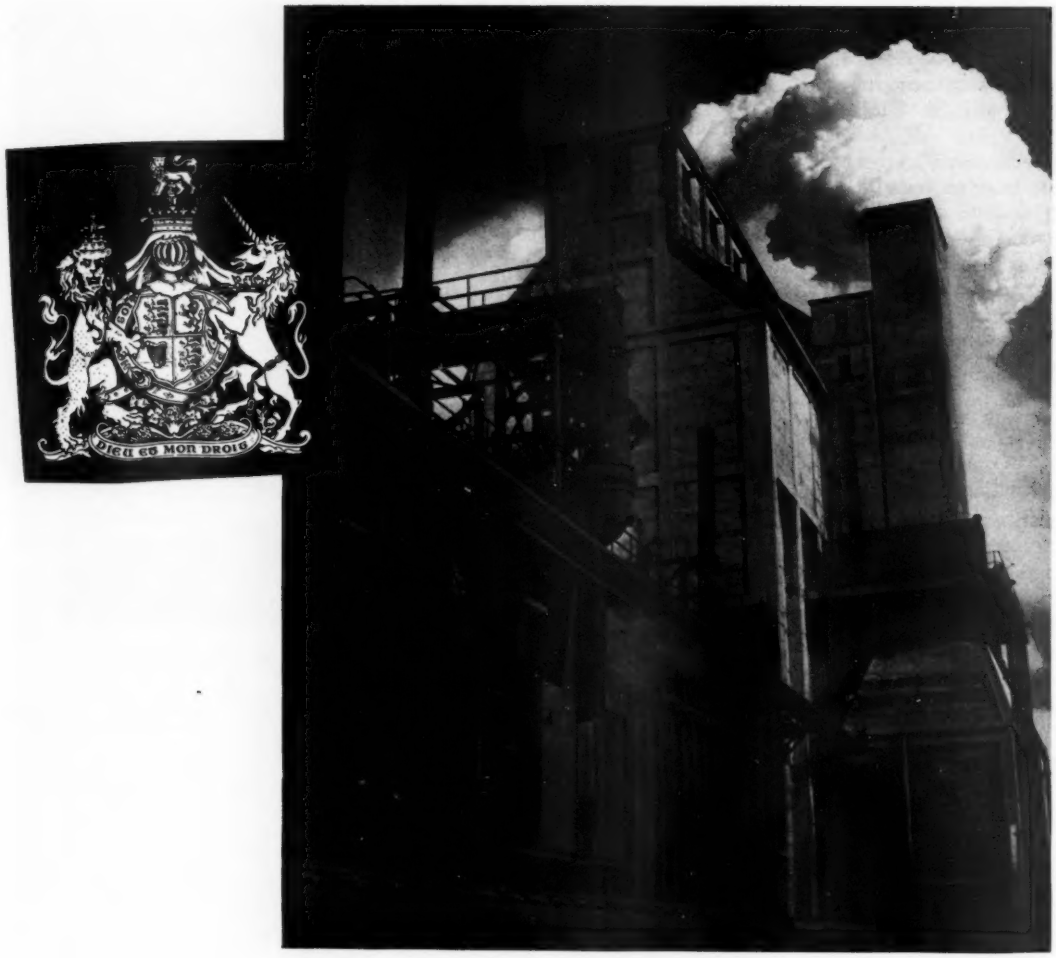
specifically on construction progress.

As construction nears completion and the pipeline starts to deliver gas, the company is giving more attention to sales contracts, to its utility customers' sales situations, and to development of the area in which it operates. Now under preparation is a two-reel, twenty-minute color film to impress on industry the advantages of moving plants to the "Big River" area which Texas Gas serves.

The film will be prepared in two versions; one a sales film, the other for educational purposes to be used by schools and universities, etc. The film will call for close cooperation with other companies, state agencies, banks, and utilities interested in developing the Texas Gas seven-state area as the ideal region for decentralization by specified industries. It will call for close relations with cities, chambers of commerce, and other civic groups representing the people who live in the area.

This brings the case history up to date. Standard approaches and new public relations procedures are constantly being tried and tested, so that no problem, large or small, will catch company management unprepared.

None of the public relations problems encountered are entirely new, but they were new to the company. They are all problems which have to be faced repeatedly by other utilities in this period when public good will must keep pace with a rapidly expanding gas industry.



The gas industry overseas

By EDWARD J. TUCKER

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Toronto, Ontario, Canada

It was a fortunate circumstance for me this past summer that during the time I selected to visit my native land, which I had not seen in 43 years, two important meetings of the gas industry took place in London. One, the eighty-sixth annual meeting of the Institution of Gas Engineers of Great Britain, the other which followed immediately, the fourth conference of the International Gas Union.

The Institution of Gas Engineers of Great Britain has a membership of around 2,350 individuals. Its main objective is the promotion of engineering science as applied to the gas industry, and for that purpose it requires the attainment of a high standard of technical training or experience in all applicants for membership.

Attendance at the opening session on Monday afternoon was around 800. The president's welcome to overseas visitors was replied to, on behalf of the new world, by Major Alexander Forward, an Honorary Member of the Institution. There are, of course, a number of American and Canadian members.

In his address to the Institution, the president, Edward Crowther, chairman of the Northern Gas Board and also a visitor to our convention in 1946, dealt with such subjects as the change to public ownership of the British gas industry, the place of the Institution in the new order, the high cost of new construction, the problem of meeting peak loads, and the need of more coordination in re-

Presented on October 17, 1949 before Manufactured Gas Department session during A. G. A. convention in Chicago.

search work. The last three items have a familiar ring to them.

The two principal papers placed before the meeting dealt virtually with the same subject. The first was entitled—"Peak-load Problems in the United States," by R. W. Hendee, president, American Gas Association. The second paper was entitled, "A Background to Some Economic Problems in the Gas Industry," by D. G. Rose, coke manager, North Thames Gas Board. In it the author discussed variations in gas send-out, load factor, and the relationship between daily gas send-out and atmospheric temperature.

It was interesting to note that the prime operating problem common to the gas industries on both sides of the Atlantic is the meeting of peak loads.

My visit enabled me to learn that both the quality and extent of the technical and research work undertaken by the Institution reach a high level. The annual budget of the Gas Research Board amounts to about £60,000, and is raised by voluntary levy on the gas undertakings. As in the United States, research work in Great Britain is greatly supplemented by manufacturers and suppliers to the industry. Future programs, however, will be in the hands of the Gas Council under the new nationalization scheme.

In Great Britain, and indeed the same is true of the United States, much remains to be done by way of interpreting the significance of results of research work to the engineers, operating men, and executives of the gas industry.

Of equal interest with the Institution Meeting was the Fourth Conference of the International Gas Union, June 15-18. This conference was the first to be held since 1937. The next one will be held in Brussels in 1952.

Membership of the International Gas Union is composed of the national gas associations of the various countries. American Gas Association, being a member and an active participant in the formation of the Union, was represented at this year's conference by President Hendee. Additional representation was effected by the presence in Europe of Alexander Forward, formerly managing director of A. G. A., who is a vice-president of the International Gas Union. I represented the Canadian Gas Association of which I am a past-president.

Thirteen countries of Europe were represented, as well as Australia, United States and Canada. Proceedings were bilingual in character, being conducted in both the French and English languages by means of interpreters.

Subjects discussed ranged over a wide field. An interesting paper was presented by the Institution of Gas Engineers on "Maintaining a Supply in Times of Gas Shortage," which described the ways and means adopted in large cities when major interferences in the supply of gas such as bomb damage and consequent flooding of mains threatened the entire supply.

Papers on research were presented by France, Great Britain, and United States; on technical training by France and Great Britain; on peak loads by France and Great Britain; on other subjects by Belgium, Netherlands, and Switzerland.

Some regret was expressed privately that a paper on education was not presented by the United States, where it was agreed that technical education occupies a more prominent position than elsewhere.

It is very difficult to secure complete statistical information covering the gas industry in Europe. Statistics for 16 countries have been compiled, but for the eight remaining countries, mostly the Balkans and Russia, no figures are available.

The population of the countries dealt with exceeds 323 millions and the customers served number some 33 millions. The ratio of customers to population is one to 9.8; gas sales per mile of main per year equal 4,876 Mcf; customers per mile of main number 176; and gas sales per customer per year amount to 27,880 cubic feet.

It is well known that the gas industry in Great Britain was nationalized in May of this year. The word "nationalization" means the conversion of an industry or service into national property. To put it another way, ownership is transferred from the hands of private enterprise into the hands of the government. The subject of nationalization was prominently in the minds of the members of the Institution and formed the principal topic of conversation.

The passing of the "Gas Act" on July 30, 1948, marked the completion of acts by which the fuel industries of Great Britain were transferred to public ownership. The Coal Industry Nationalization Act was passed in 1946, and the Electricity Act in 1947.

Public ownership of the gas industry is rather far advanced in Europe. The gas industries of Poland, Czechoslovakia, France, and now Great Britain, have been nationalized, and in other countries such as Holland, Norway, Sweden and Switzerland, by far the larger number of gas works are owned by the local municipal authorities.

Prior to nationalization, the gas industry in Great Britain consisted of 1,018 plants of which 275 were owned by municipal authorities. Responsibility for conducting the gas industry now rests on a Gas Council and 12 Area Gas Boards.

The "Gas Act" sets forth the machinery by which the gas industry was taken over to be operated as a state-owned organization. Virtually all private and public legislation formerly applicable to the gas industry has been repealed and a new code established by which the industry will be governed. The code covers, among other matters, regulations concerning quality of gas, calorific value, gas and meter testing, laying of mains, etc.

The main governing body is the Gas Council which consists of a chairman, deputy chairman and the 12 chairmen of the Area Boards, a total membership of 14.

It is the function of the Gas Council to promote and assist the efficient exercise and performance by the Area Boards of their functions, and to advise the Minister of Fuel and Power on the gas industry and matters relating thereto.

Duty of the 12 Area Gas Boards is to develop and maintain an efficient coordinated and economical system of gas supply within the territorial limits of their respective areas. These areas vary in size and population while the number of former gas companies in the area range from 12 in the North Thames (London) area, to 190 in the Scottish area.

The Act provides that either the chairman or the deputy chairman of an Area Board must be a person having had experience of and shown capacity in gas supply. The actual appointments made

to date include seven chairmen and ten deputy chairmen who have previously established themselves as leaders of the gas industry. A provision in the Act bars members of Parliament from being appointed to the Gas Council or to an Area Board.

Each area contains an established Gas Consultative Council consisting of from 20 to 30 members charged with the duty of considering any matter affecting the supply of gas in its area and to advise the Area Board of its conclusions. These are honorary bodies appointed to a large extent from among city and county councillors.

Subject to directives by the Ministry of Fuel and Power on matters of national policy and interest, Area Boards are virtually independent and autonomous bodies with full operational authority. In financial matters, however, each board is compelled under the Gas Act to operate so that the revenues are not less than sufficient to meet the outgoings properly chargeable to revenue taking one year with another, and to provide for a reserve fund and annual payments to the Gas Council.

Each Area Board is empowered to fix its own gas rates. Already within six months of the vesting date of May 1, increases in the price of gas have been announced in nearly all areas. Among the reasons given for these increases are:

(a) Increased cost of coal;

(b) Operating losses of old undertakings regarding which no attempt had been made to remedy because of the imminence of nationalization;

(c) Wartime arrears of maintenance of plants deferred or not made good by undertakings anticipating nationalization;

(d) Depreciation charges must be made by the Board;

(e) That payments must be made to the Gas Council for various purposes.

As compensation to the former owners, the government created and issued British gas stock bearing interest at three per cent due 1990/1995. The Gas Act provides in lengthy detail the manner of ascertaining the amounts to be paid to the holders of securities and others for their properties and provision is made for appeal.

Recently, however, considerable dissatisfaction has been expressed by many former owners for the reason that before all the British gas stock had been issued its market value had depreciated.

Now consider the position of the Institution of Gas Engineers and District Associations under public ownership. These organizations parallel A. G. A. and state associations in this country.

The Institution throughout its life has remained strictly a professional and technical body, and under the new order will probably serve as a forum for technical discussion, and as a medium of consultation. As to the district association, undoubtedly some limit to the topics of discussion seems inevitable. Freedom to discuss matters relating to the technical side will not likely be curtailed, but discussion of managerial and commercial policies would seem to have no place in their proceedings as all such matters will be decided by the Area Board.

Support of these organizations, financially and otherwise, by the Gas Council and Area Boards will likely continue as in the past for some time.

Particularly interesting from our point of view is the position of the individual in a nationalized industry.

With so many personally affected in their positions, it is natural that some concern should be felt by the authorities about the attitude of the rank and file of the gas industry toward their prospects under the "new order". This concern was disclosed when the chairman of the Gas Council, Sir Edgar Sylvester, a former governor of the Gas Light and Coke Company of London, in his first official speech before the Institution of Gas Engineers selected as his subject, "Nationalization and the Individual," a subject which he believed, as time goes by, must become vital not only for the gas industry but for the country at large.

Organization changed

"The gas industry," he stated, "has been developed over a long period by individuals, mostly engineers, controlling a large number of separate units. Now the whole organization of the industry has been changed. In place of the thousand or so separate gas undertakings there are 12 Area Boards which together with the Gas Council form the administrative units of the industry. But this change," he asserted, "need not involve the suppression of initiative and individual effort. Indeed, it would be a tragedy if it were to have the effect of making those employed in the gas industry sit back and wait to be told what to do."

He declared that: "Every individual in the industry, whatever his job, should be conscious that he is engaged on a work of national importance and that he is making a contribution towards the comfort and well-being of the whole community."

It is too early to say whether the removal of the incentive which comes from private enterprise will produce a spirit of apathy and indifference in the individuals of the industry, or whether the clarion call to national service will inspire them to work for the advancement and promotion of a state-owned gas industry with the same zeal as they exhibited under private ownership.

In 1939 a group on political and economic planning published a report on the gas industry and advocated a general scheme of national and regional organization quite similar to the one now adopted by the state. However, in that report it was assumed that the plan of coordination would come from within the gas industry and not be imposed by the state.

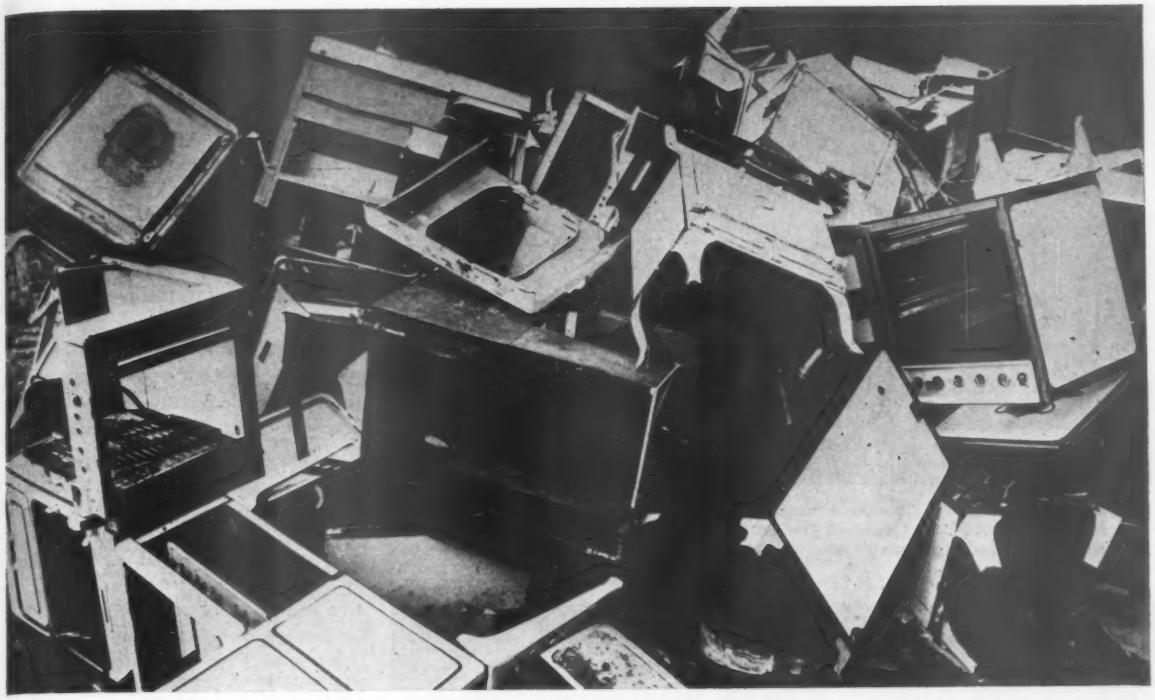
Whether voluntary action at that time on the part of the British gas industry would have prevented nationalization by the government ten years later, it is difficult to say.

Events mock human expectations!

We should not assume that nationalization of the gas industry in France and England will result in confusion, inefficiency, and higher costs. The operation of the gas industry in those two countries where the industry had its birth is for the most part still in the hands of experienced men. The working out in both countries of schemes of integration of gas works and distribution systems resulting from nationalization will not only be extremely interesting, but well worth following from a technical standpoint.

Quite often the result of a trip away from home is to make one more contented with the local scene. The record of the American gas industry for the past ten years is quite sufficient to justify one's enthusiasm for it. Although the business of public gas supply in America is over 130 years old its period of greatest growth is still ahead of it. During the next four years it is forecast by reliable authority that construction expenditures will aggregate almost $2.8 billion.

It's a good industry to come home to, for it presents an example of public service, private initiative and enterprise not excelled anywhere in the world.



One day's collection of old stoves in Fall River, Mass.—one of many such piles reported throughout the country under the Old Stove Round Up campaign

Round Up results pouring in

a PAR activity

Mountains of old stoves are accumulating in every section of the country as dramatic proof of the impetus attained by the gas industry's powerful Old Stove Round Up. The drive is expected to gain momentum during the early part of 1950 and reach a sustained peak next fall.

Highlights of Round Up developments are indicated by the following summary of local tie-in activities by five companies, selected at random:

The Cincinnati Gas & Electric Co., Cincinnati, Ohio—Tremendous interest in the Old Stove Round Up has been generated in Cincinnati. Each metropolitan daily newspaper in the city is cooperating and sponsoring its own Round Up contest.

Under a "Pot Luck Contest" sponsored by Cincinnati Times-Star, readers were urged to clip a coupon and bring it to the Old Stove Round Up display at the gas company. Sixteen thousand coupon clippers received the privilege of reaching into a large pot to select a picture of one of 27 gas ranges on display. Each person then looked for the name of the range on the picture and for the burner which was stamped "pot luck." A pot on this burner was uncovered and the coupon holder received the prize enclosed which ranged from a ham to a Gas Has Got It balloon. At the end of the contest, all the coupons were placed in another pot for a "Jack Pot Prize"—a new gas range.

The "Chuck Wagon Contest" sponsored by The Cincinnati Post encouraged youngsters from six to 12 to build chuck wagons with "Old Stove Round Up" inscribed on one of the sides. The models were entered in the contest and each entrant received an Old Stove Round Up hat and bandanna. First prize was a pony and western outfit for the boy and a new gas range for his mother. Thousands of children examined the large chuck wagon on display at the gas company while their mothers looked over shiny new gas ranges.

An "Old Stove Contest" run by The Cincinnati Enquirer offered a new gas range for the oldest stove turned in. Entry blanks were run three times a week during the entire campaign.

Gas company officials estimate that 125,000 persons visited their Round Up display which has been described as the greatest promotion ever held in the area. Two full weeks of television broadcasts were produced direct from the display with programs ranging from one hour to two full hours at a time. Western radio stars appeared at intervals. A roping act and a trained horse performed in front of the display window, drawing large crowds.

The company tied in with the local Community Chest drive by making leading solicitors honorary cowboys, and presenting them with hats and bandannas on a radio program which originated from the utility's headquarters. A

Round Up active on many fronts

30,000 persons attending 1949 Canadian National Exhibition in Toronto registered their old stoves at this booth sponsored by The Consumers' Gas Co. of Toronto. Utility's exhibit was arranged by H. R. Garratt, superintendent of domestic sales, and John McLaverty, superintendent of sales promotion

Cowboy hats add a touch of realism and help these Portland (Ore.) Gas & Coke Company employees, cashiers and others who meet the public, to focus attention on the nationwide Old Stove Round Up

One gas range manufacturer's representative staged his own Old Stove Round Up meeting this fall when C. E. Longenecker, Sr., converted his barn at Hereford, Pa., into a western setting. Shown above are Allentown-Bethlehem Gas Company employees with Sales Manager A. J. Wilmer holding the goat

disk jockey performed daily from the building lobby on a 75-minute program named "The Record Range."

Numerous other tie-ins were developed to put across the company's mammoth Old Stove Round Up drive.

Fall River Gas Works Co., Fall River, Massachusetts—This company reports that early results of its Round Up drive have been "fabulous. We knew it had good possibilities but it has exceeded our fondest expectations. On the strength of this success, we are planning a series of nationwide promotions next year. . . . Such nationwide activities are a definite advantage to the industry as a whole."

Alabama Gas Corp., Birmingham, Alabama—Believes that use of a chuck wagon is particularly effective. Tentative plans for the next Round Up promotion include use of a large float, decorated in a western motif, to tour the area and distribute giveaway items, play cowboy records and show tie-in advertising where not prohibited by city ordinance. Round Up messages will be carried to the public by spotting the float in suburban communities for a day or two at a time.

The Dayton Power & Light Co., Dayton, Ohio—A special contest called "The Old Stove Round Up" was sponsored by 50 Dayton gas range dealers in cooperation with the utility. Purpose of the contest was to educate the public on the great improvements in the manufacture of modern automatic gas ranges.

Cash prizes were awarded to salesmen who sold the most new gas ranges during the contest. Company spokesmen report that "appliance dealers sold over 40 percent more gas ranges during the period of the contest than in any similar period. We were very pleased with the results."

Union Gas System, Inc., Independence, Kansas—Use of a covered wagon and cowboy regalia created a great deal of interest in new gas ranges.

One official pointed up the planning which has made the Round Up successful. "We in the Union Gas System found," he declared, "the advertising material and general promotion of the American Gas Association very helpful in tying in with the national promotion of Old Stove Round Up time. In my opinion, such promotion developed and handled by the American Gas Association is the most effective means of increasing the sale of gas ranges."

Laboratories research study shows basic techniques for efficient operation

Facts on the gas food warmer

a PAR activity While the flexibility of gas as a heat source has furthered design of modern food service equipment, its advantages are best realized when the flue gas flow pattern is properly controlled. Important basic techniques for providing proper flow patterns, correct burner design and placement, and good venting in the design of the gas-fired food warmer, are shown in a new publication of American Gas Association Laboratories.

Research Report No. 1130, "Study of the Factors Affecting the Application of Gas to Counter Appliances (Dry Food Warmers)" is the third in a series of studies on counter appliances undertaken as a PAR Plan activity for the Association's Committee on Industrial and Commercial Gas Research. Priced at 75 cents a copy, the report complements previous studies on gas coffee urns and gas steam tables (A. G. A. MONTHLY, April 1948 and January 1949). A fourth research report is being prepared on the subject of griddles and combination broiler-griddles.

Designed to maintain food at serving temperatures, gas-fired dry food warmers are a relatively recent addition to commercial food processing and servicing equipment. On casual inspection, they resemble steam tables, which serve a similar function.

Dry food warmers differ from steam tables chiefly in that hot flue gases are employed as a direct transfer medium. In gas steam tables, heat is transferred from flue gases to water contained in a pan beneath the food inserts. A dry food warmer, depending for its operation on circulation of warm gases around food containers, is particularly suited for gas heat since combustion of gas results in the production of hot flue gases which may readily be circulated within the warming compartments.

Several types of gas-fired dry food warmers are now available. Counter as well as floor models, with or without storage facilities in the base, are enjoying increasing acceptance in the industry. Direct control of food compartment temperature provides a means of reducing food spoilage.

In gas-operated dry food warmers, burners are usually located beneath the warming compartment. Heat available from the burner is transferred to the warming compartment by convection currents and in some cases, by radiation from a heat distribution plate. In some warmers, the flow of warm air and combustion products within the warming compartment is directed by partitions and baffles placed above the heat distribution plate in such a manner as to maintain different temperatures in the various food containers.

If good circulation is provided and flue gases are held in close contact with food containers until they have given up their heat, the efficiency of the dry food warmer will be high and gas consumption will be minimized. In designing the venting system, baffling can be arranged so that full use is made of the heat in the flue products by lengthening flue gas travel. Care should be taken to provide sufficient cross-sectional area to insure free flow of flue gases.

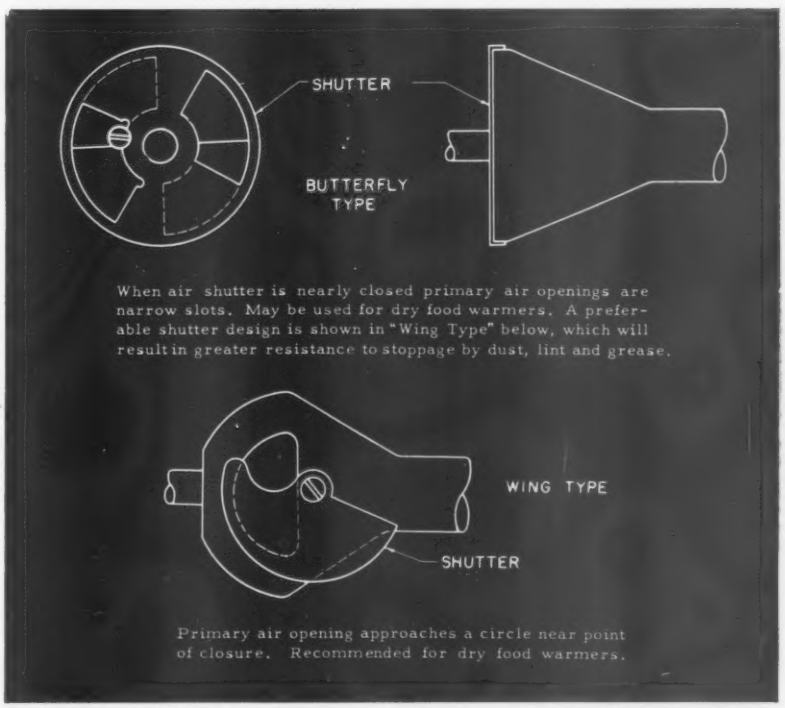


Figure 1. Primary air control devices for atmospheric gas burners. Detailed information on suggested heat input rates for warmers of various food capacities is included in the A. G. A. report

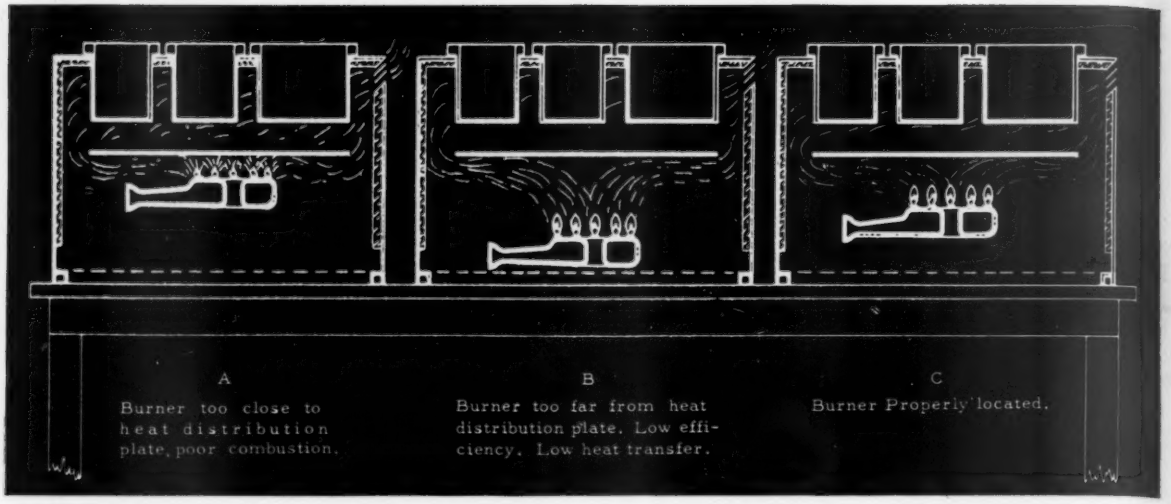


Figure 2. In addition to proper burner design, there is the important factor of burner location. Effect of such location upon burner operation is shown above

Research and experience have shown that at least one square inch of venting area should be provided for approximately each 5,000 Btu input per hour to the gas burner. Inadequate venting tends to give rise to incomplete combustion by preventing free escape of the flue gases. Too large a venting area permits hot gases to leave the appliance before they have given up their heat.

Approximately one-half of the air necessary to burn the gas properly is supplied as primary air—is drawn into the burner and mixes with the gas. The rest of the air required to complete combustion is supplied to the flames at the point of combustion from the surrounding air and is known as "secondary air."

In more complex designs it may be necessary to employ panels, baffles and other shields to direct the inflow of both primary and secondary air. The designer may provide baffling or aeration plates which permit satisfactory performance when the appliance is operated in an open room or with the storage compartment empty. However, in actual service it is entirely possible that the aeration openings may be blocked when the appliance is placed against a wall or the storage space loaded to capacity. This is often the case with enclosed base types.

Major design factors for burners of the conventional drilled port and jet types commonly employed are shown the new report. It is important to note that a horizontal mixing tube is provided with an adjustable primary air shutter and an adjustable gas orifice. Consequently, this burner is readily adjustable for use on different gases or pressures.

Air shutter design is illustrated in Figure 1. Jet burners, it will be noted, employ fixed orifices and fixed primary air openings. Consequently, individual jets designed for specific applications are used in practice. Detailed information on suggested heat input rates for warmers of various food capacities, as well as over-all burner design, is given in the report.

Like proper burner design, burner location is an important factor. Figure 2 illustrates the effect of burner location upon burner performance. Uniformity of heat distribution to maintain the desired temperature throughout the warming compartment, efficient heat transfer, and good combustion are the major factors involved.

The importance of providing sturdy burner supports which will maintain the burners in their proper position cannot be over emphasized. Proper burner position varies with individual designs and operating conditions and can be determined best by performance tests. In practice, this is best accomplished by determining the maintaining rates resulting from various burner positions. Details of this procedure are fully presented in the new A. G. A. report.

Radar oven flunks boiled egg test

● If you like your egg boiled don't try it in a radar oven—if you have a radar oven and an egg. But if you want the egg scrambled, radar can do it—too well.

These and other interesting facts have been discovered by researchers working with high frequency cooking in a radar oven at Cornell University. A radar oven that stays cool while it cooks is being tested for the U. S. Navy at College of Home Economics.

Kathryn Causey, a research associate, said recently she had detected very little difference between radar-cooked food and that prepared by the usual methods as far as palatability, nutritive value, weight losses and bacterial count are concerned.

The researchers also made these observations:

The radar oven will cook a quarter-pound frozen meat patty in exactly one minute, but will not brown the meat.

Most vegetables cook satisfactorily via radar.

Potatoes bake through in three or four minutes and cannot be distinguished from spuds baked an hour in a gas or regular electric range.

Baked goods such as bread and cake are a failure in the radar oven, resulting in a strange loaf of large horizontal flakes, similar to pie crust flakes.

An experiment in boiling an egg was disastrous. The hen fruit exploded.

At least four major features are required for an effective control system

Importance of internal control

By CARMAN G. BLOUGH

Director of Research
American Institute of Accountants, New York, N. Y.

Most business organizations have established some degree of internal control. Many have developed extremely effective systems. Too few, however, have developed plans and procedures for internal control to the full extent of its potential usefulness as a practicable management technique.

In the old days, when the ordinary business was run by an individual owner, or by a couple of partners, they were able to maintain close contact with the affairs of the business. These days, even the so-called medium-size business organization is apt to be complex and widespread. As a result, the owners of many businesses can no longer maintain any semblance of close contact with the operations of the organization. They must now delegate much of their authority for operating the business to others. Owners of these businesses, the stockholders, have delegated that responsibility to management groups. Top management, in turn, has had to delegate much of its authority to subordinates.

In these circumstances, effective control of the operations of a business is a difficult problem. Fortunately, the factors which have caused the problem have also provided the means of overcoming it to a considerable degree. The opportunities for effective internal control which exist in a large organization provide a partial solution to many of the problems of management control.

Abridged version of paper presented at General Accounting meeting during 1949 A. G. A. convention.

It is evident from the foregoing that I am not using the term "internal control" in any narrow sense. As recently defined by the committee on auditing procedure of American Institute of Accountants, "internal control comprises the plan of organization and all of the coordinate methods and measures adopted within a business to safeguard its assets, check the accuracy and reliability of its accounting data, promote operational efficiency, and encourage adherence to prescribed managerial policies." Internal control, as thus defined, extends beyond those matters which relate directly to the functions of the accounting and financial departments and includes such matters as budgetary control, standard costs, periodic operating reports, and statistical analyses.

Carman G. Blough: Internal control should start with appropriate division of responsibilities

A training program designed to aid personnel in meeting their responsibilities and an internal audit staff to provide additional assurance to management as to the adequacy of its outlined procedures and the extent to which they are being effectively carried out, may play very important parts in providing effective internal control. Moreover, activities in other fields, such as time and motion studies, which are of an engineering nature, and the use of quality controls through a system of inspection, which is fundamentally a production function, may also be important elements in internal control.

A satisfactory system of internal control should have at least four principal characteristics. First, there should be a plan of organization which provides appropriate division of responsibilities for the activities of the enterprise. This requires organizational independence between operating, custodian, and accounting departments. The plan of organization should also establish clear lines of responsibility within the divisions for their efficient operation in conformity with requirements laid down by top managerial policies.

The second principal characteristic of satisfactory internal control is that there should be a system of authorization and record procedures adequate to provide reasonable accounting control over assets, liabilities, revenues and expenses. Accounting and procedures manuals and appropriate records and forms furnish the *plan* of internal control.

The third principal characteristic is that sound practices must be employed in giving effect to the plan of internal control. This usually involves a division of duties so that no one person will handle a transaction completely from beginning to end. The person authorizing

or initiating a transaction should have no part in recording it or in the stewardship of the assets. By such division, an automatic check on the accuracy of the work is provided and the probability of errors or fraud being detected promptly is substantially enhanced.

The last of the principal characteristics of good internal control, and one of the most important, is that the quality of the personnel should be commensurate with their responsibilities. A properly functioning system of internal control depends not only upon effective organization planning and the adequacy of the procedures and practices, but also upon the selection of officers and department heads of ability and experience and of operating personnel capable of carrying out the prescribed procedures in an efficient and economical manner.

Internal control, in the broad sense, enters into practically every phase of a business organization's activities. However, I would like to limit my discussion to four phases of internal control which I consider of particular importance to management. These relate to the importance of internal control (1) in assuring reliable accounting data, (2) in safeguarding the organization's assets, (3) in establishing preventive measures and (4) in facilitating independent audits.

Executive management can seldom exercise personal control over the conduct of the operations of modern business organizations. It must rely almost entirely upon accounting reports and statistical analyses in making many of its decisions. Obviously, the information upon which those decisions are based must be accurate and reliable. Management's decisions cannot, in the long run, be any better than the information upon which they are based. Establishment of an effective system of internal control, particularly that phase in which the work of one person or one department is reviewed and verified by the work of another, is of great importance in assuring the reliability and accuracy of the information upon which managerial decisions must be based.

There are many who consider that the most important benefit of an effective system of internal control. However, there is another area in which the accuracy and reliability of accounting data is also very important. That is the broad area of reports to those outside the direct management of the business. With the increase in the size and scope of modern business, management's responsibilities to outsiders have become a matter of great importance and concern. The extent of those responsibilities is already onerous and likely to become more so. Management cannot discharge those responsibilities satisfactorily without reliable accounting data.

Perhaps the most obvious responsibilities of management to outsiders are those relating to investors. Modern business is no longer owned by small groups of very wealthy business men. To a very great extent, business is owned these days by large numbers of people in all walks of life, most of whom own a very small portion of any one business organization. The same is substantially true of the holders of corporate debt as well. Thus, management is in many cases acting on behalf of a large segment of the general public. That not only requires management to safeguard the assets of the organization and to run it efficiently, it also requires management to make a fair report of its activities to those concerned.

Management responsible

Being management's reports, management has the primary responsibility for these reports as is shown by the following SEC opinion in the *Interstate Hosiery Mills* case:

"The fundamental and primary responsibility for the accuracy of information filed with the Commission and disseminated among the investors rests upon management. Management does not discharge its obligations in this respect by the employment of independent public accountants however reputable. Accountant's certificates are required not as a substitute for management's accounting of its stewardship, but as a check upon that accounting."

While that statement of management's responsibilities to investors for the accuracy of its reports relates primarily to information filed with SEC, there is little doubt but that management is held equally responsible for information submitted directly to investors and to banks and other credit grantors. Although allowed much more discretion as to the volume of information necessary for such reports, management has the primary responsibility for the accuracy and completeness of the information presented.

Another area in which the accuracy and reliability of accounting data are of very great importance is that of reporting earnings and other information for tax purposes. Not only is the government likely to exact penalties for inaccurate records, there is also, from management's point of view, the necessity for reliable data to assure itself not only that it pays all the taxes owed, but that it pays no more. I have emphasized the increasing size and complexity of modern business organizations. I doubt that it is necessary to emphasize the extent to which the size and complexities of our modern tax structure have followed suit. The mere belief that the data are accurate, without real grounds for such belief, provides a dubious basis for undertaking the responsibilities involved in filing the multitude of tax returns required by most business today. The stakes are too large for half-way measures.

Those are but two of the many types of reports to outsiders, the accuracy and reliability of which are of concern to management. There are many others which are also important, among which the most important are probably the reports which have to be filed with the various governmental bodies regulating public utilities. They may also include reports to other governmental agencies and special reports to the general public, to consumers and to employees as a matter of public or employee relations. In all of these reports the penalties for inaccurate data are great, regardless of whether the penalties are paid in money or in ill will on the part of the public and employees. Needless to say, management must be right the first time as often as possible. One of the safeguards against errors is an effective system of internal control.

I have stressed the importance of internal control in providing assurance as to the accuracy and reliability of records because I feel that its importance has not received the recognition it deserves. I should also like to point out another respect in which effective internal control plays an important part in the discharge of management's responsibilities for controlling operations, i.e., it can also assure management as to whether subordinates are adhering to its policies and can provide a useful basis for reviewing and re-appraising those policies. This is a very real problem when anyone must delegate authority and becomes especially significant when the persons to whom the authority must be delegated are far removed from close supervision.

This problem is closely related to that of obtaining accurate and reliable reports. However, if the reports are to be meaningful, all concerned must have a common understanding of what is to go into them and of how the information can best be presented for management's purposes. There must be a reasonable degree of uniformity in the preparation of the reports and analyses and in the accumulation of the underlying data. That can be accomplished only if management sets the pattern for such uniformity.

One of the most effective methods of setting such a pattern is by the preparation of charts of accounts and procedures manuals. Broadly speaking, a chart of accounts provides for the classification of data within the over-all accounting system, while the procedures manuals explain what should be included in particular accounts. It should be noted, however, that the problem of preparing a chart of accounts is much broader than that of merely providing slots into which transactions should be dropped. The chart of accounts must be so designed as to provide promptly and economically, and in a useful form, the information management needs in the control of the organization's activities. That requires careful study.

It is important to emphasize that a well-designed system of procedures and reports must be constantly reviewed and appraised to see that it is functioning as planned. The system will break down if individuals, act- *(Continued on page 43)*

Industrial relations round-table

Prepared by
A. G. A. Personnel Committee

● **J. J. Jehring,** assistant professor, New York State School of Industrial and Labor Relations, Cornell University, has compiled a listing of audio-visual aids available in the field of industrial and labor relations. This listing begins on page 80 of the Industrial and Labor Relations Review (Cornell University) for October 1949, and gives the title, source, running time and a brief description of the subject content of each of these aids. They are classified according to such topics as foreman training, industrial safety, steward training, labor history, economics, human relations, and instructional methods and leadership.

● **The State of Nebraska** has asked the District Court of Douglas County to stop American Arbitration Association from continuing its activities because it uses court procedures and conducts hearings which the state claims usurps the power and jurisdiction of the Nebraska courts. The state claims that the activities of AAA violate state laws and that AAA uses some panel members who are not lawyers to decide legal disputes. Further claims by the state are that AAA engages in the business of settling disputes by arbitration for a fee, that AAA arbitration rules are subject to change at will and that the rules are not distributed to persons or organizations asked to do business with the association.

● **CIO—What It Is And What It Does,** recites the history of CIO founding and development. Included are the official views on the union's political and legislative program as well as the rules and conduct of its conventions. The pamphlet discusses the salaries of its officers and monthly ducs of its employee members.

● **Metropolitan Life** has published a report "Community Relations: Getting Acquainted With The Community." Purpose of this report is to provide information to executives on proven methods of increasing understanding and cooperation between a company and its community. Executives may secure a copy by writing on their business letterheads to Policyholders Service Bureau, Metropolitan Life Insurance Co., 1 Madison Avenue, New York 10, N. Y.

● **Commerce Clearing House,** a commercial publisher of labor news services, began publishing a new booklet in October called "Labor Law Journal," to be issued monthly. The booklet will contain articles on labor relations written by well known management representatives as well as prominent labor leaders. Included will be decisions of courts and administrative agencies and reviews of books and articles in the labor field. Subscription price is $6.00 per year. Commerce Clearing House is located at 214 N. Michigan Avenue, Chicago 1, Illinois.

● **F. C. Smith** expresses his views on the question of "Why White-Collar Workers Don't Join Unions" in a brief and to-the-point article appearing in the October 1949 issue of Personnel Journal. This article explains the author's views on what he believes are the reasons for the highly successful union organization drives among the industrial workers in 1936 and compares them with his reasons for the relatively unsuccessful efforts among the white collar workers in the period which followed.

● **Employers negotiating union contracts** on health and welfare benefits will be interested in the new survey of these subjects found in current contracts by the Division of Industrial Relations, Bureau of Labor Statistics. Benefits covered in the survey include hospitalization, weekly sickness and accident payments, life insurance, accidental death or dismemberment payments, surgical and medical fees or service and maternity benefits. The survey analyzes 377 sample contract clauses and indicates the types, amounts and duration of benefits, and methods of financing and administering the plans.

● **The National Industrial Conference Board** has completed a study of 255 recently adopted pension plans. These plans either have been made effective or have been revised since October 1945. The study indicates that the majority of plans in most industries are contributory and the only group of industries in which non-contributory plans are in a definite majority is the wholesale and retail group.

● **Part II—Pension Plans** of the chapter "Employee-Benefit Plans" for the revised edition of Bulletin 686, "Union Agreement Provisions," has been completed by Bureau of Labor Statistics, U.S. Department of Labor. This survey reproduces 144 sample clauses from the more than 15,000 union contracts in the department's files. Several pension plans for well known employee groups are reproduced in full. Titles for the principal classifications of the sample clauses are as follows: Contractual Obligations, Eligibility Rules For Membership in Plan, Qualifications For Benefits, Retirement Age, Employees' Benefit Rights On Separation From Service, Amount of Pension, Financing the Plan and Administration.

● **S. D. Warren Company,** (printing papers), 89 Broad Street, Boston 1, Massachusetts, has issued a booklet "The Employee Manual," of interest to those concerned with the preparation and printing of employee publications.

● **Based on the combined experience** of 21 companies and a management consultant firm which has installed many job description and evaluation systems, Controllership Foundation, research arm of Controllers Institute, has issued a splendid report "Evaluating Managerial & Supervisory Jobs in the Controller's Department". Price of this report is $2.50 to all members of Controllers Institute, 1 East 42 Street, New York 17, N. Y., and $5.00 to all others.

Large combined exhibit shows advantages of gas fuel and equipment

Gas featured at Metal Show

The largest industrial show in the world was held during the week of October 17, 1949 at the Public Auditorium in Cleveland, Ohio. The occasion was the National Metal Congress and Exposition. Some 360 exhibitors showed all types of equipment used in the metalworking field to 68,000 visitors, members of the American Society for Metals and the three other engineering societies that meet at the Metal Congress.

"Economy in Production" was the keynote of this year's show. An impressive Combined Industrial Gas Exhibit, showing many industrial gas applications, exemplified this theme to the letter by calling attention to the economies and other advantages of gas fuel and industrial gas equipment. In this largest single exhibit area of the Metal Show, ten manufacturers of industrial gas equipment combined to produce one of the most extensive exhibits ever sponsored by American Gas Association.

Individual cooperating exhibitors and the equipment they displayed in their respective locations was as follows:

American Gas Furnace Co., Elizabeth, New Jersey—A working reciprocating shaker hearth gas-fired furnace, and a live display of various types of burners for pattern heating.

Eclipse Fuel Engineering Co., Rockford, Illinois—Various types of heavy duty burners, proportional mixing equipment, gas control valves, and a packaged-unit marine boiler.

Gas Appliance Service Co., Chicago, Illinois—Several small operating furnaces under full automatic temperature control, special burners for flame hardening and a high speed forge furnace for heating bar ends.

The Gas Machinery Co., Cleveland, Ohio—An illustrated, animated display showed the operating characteristics of a carborundum radiant tube for high temperature furnace heating.

Charles A. Hones, Inc., Baldwin, New York—Two "buzzer" furnaces were shown in full operation. One was a full-muffle type heated to 2400° F, and the other was a semi-muffle type at 2000° F. Both were under full automatic temperature control. A large display showed various types of burners.

The C. M. Kemp Manufacturing Co., Baltimore, Maryland—A newly developed safety control system was demonstrated on an indicating panel containing a small burner with automatic spark ignition and flame detector. Several burners were operated in another display to which the premixed gas was supplied by a mixing machine.

a PAR activity

The Lithium Co., Newark, New Jersey—Advantages of lithium atmosphere were shown in an attractive display, together with samples of work performed by the company's process.

Sellers Engineering Co., Chicago, Illinois—Two types of immersion fired boilers were displayed which are adaptable to industrial processing as well as for normal requirements of hot water and steam.

The Spencer Turbine Co., Hartford, Connecticut—This is the first time this company has been in an A. G. A. combined exhibit. Blowers on display were designed to supply combustion air and several of them were in use for this purpose in the gas area.

Selas Corp. of America, Philadelphia, Pennsylvania—The operating scale model of this company's high-speed "gradiation" heating unit was the focal point of the exhibit. Another display had sev-

Vista of modern industrial gas equipment which greeted visitors to the Combined Industrial Gas Exhibit at the National Metal Exposition in Cleveland, Ohio

eral types of radiant burners in operation and the background panel had many illustrations of installations. The newly acquired dehydration unit was also shown.

In the A. G. A. lounge area, Associated Factory Mutual Fire Insurance Companies had an operating display to demonstrate their new gas safety control system. In brief, the system is a means whereby a manual reset valve must be set in case there is any failure of gas supply or electric service to the controls. This manual valve can only be reset after all burner cocks are in an "off" position. A series gas line through the burner cocks in the "off" position actuates a pressure switch releasing the lock on the manual reset valve. Then the burners can be lit individually. This system has been designed as a safety feature on ovens and furnaces having multiple burners.

Spotted throughout the Metal Show were individual displays sponsored by manufacturers of industrial gas equipment. Among those showing new equipment were Surface Combustion Corp., and North American Company.

The entire exposition, including the gas exhibit, showed the latest techniques of metal engineering and heat treating. The consensus of opinion was that this thirty-first annual show was the most effective event of its type ever held.

Industrial sidelights

Two outstanding events highlighted Metal Show Week. On October 18 the traditional Industrial Gas Breakfast was held at the Hollenden Hotel with more than 100 editors of metals publications, industrial gas equipment manufacturers, and industrial gas engineers present. This 12th annual affair at which Carl H. Lekberg, incoming vice-chairman of the Section and a past chairman of the Metals Committee, presided at this twelfth annual affair.

The early morning group was welcomed to Cleveland on behalf of The East Ohio Gas Company by its general manager, George W. Horsley. Dr. Oscar E. Harder, assistant director, Battelle Memorial Institute, Columbus, Ohio, and a past-president of American Society for Metals, welcomed the breakfast guests. E. L. Shaner, editor-in-chief Steel magazine, gave the group an enlightening picture of the labor situation in the *(Continued on page 45)*

Head table guests at twelfth annual Industrial Gas Breakfast held during Metal Show week included (left to right): George W. Horsley, The East Ohio Gas Co., who welcomed the group to Cleveland; R. L. Shaner, editor-in-chief, Steel magazine, guest speaker; Carl H. Lekberg, Section vice-chairman, and Dr. Oscar L. Harder, who greeted the guests on behalf of American Society for Metals

A feature of the A. G. A. lounge area was this demonstration panel sponsored by Associated Factory Mutual Fire Insurance Companies to show the operation of their safety control system in event of gas or electric power failure from any cause. A representative was on duty at the display at all times

A. G. A. Metals Committee meeting during Metal Show week: (Clockwise around the table) C. George Segeler, A. G. A.; F. C. Schaefer, Elizabeth, N. J.; R. C. LeMay, Philade'phia; K. I. Robinson, Newark, N. J.; R. E. Crane, Elizabeth, N. J.; E. L. Woods, Springfield, Mass.; S. C. Parker, Chicago; M. A. Combs, A. G. A.; R. L. Melaney, Pittsburgh, chairman; Carl Wierum, Brooklyn; Hale A. Clark, Detroit; S. T. Olinger, Cincinnati; A. M. Thierston, Cleveland; E. B. Freeman, Muncie

New gas appliances offer increased load and dealer sales

Selling the three new big jobs

By HAROLD MASSEY

Assistant Managing Director
Gas Appliance Manufacturers Association, New York, N. Y.

In the present need for returning to sales realities, most of the steps necessary to cope with the return of the so-called "buyers' market" in the gas industry, have been taken or are well under way.

As the result of several planning surveys made by manufacturers during the later years of the war, several startling new or greatly improved appliances have made their appearance and are now available to build load and dealer sales.

It doesn't take salesmanship to make people want such items as food, shelter and clothing. These are things that people buy of necessity, because they are subsistance items. Two of these items, shelter and clothing, involve the same basic buying motive—they provide the owner with complete independence of the weather.

The automatic clothes dryer, the gas incinerator and the all-year gas air-conditioner make that same basic and powerful appeal to the prospect.

I should like to take each of these three appliances and review them quickly, emphasizing:

(1) What will it do for the customer?
(2) What will it do for the utility?
(3) What will it do for the dealer?
(4) Do people want to buy it, and
(5) How to sell it.

Gas laundry dryer

What will the new profit opportunity, the gas laundry dryer, do for the customer?

(1) It eliminates weather worries; let it rain, let it snow, the dryer makes the housewife independent of the weather.

(2) It takes the hard work out of washing. It is hard to lug a heavy basket up and down cellar steps.

(3) It's a time-saver de luxe. With a dryer, anyone can wash, dry and iron in the same day. The dryer not only dries clothes about as fast as you wash them, it saves ironing time as well. The woman is independent of the clock as well as the sun.

(4) The dryer is sanitary and healthful. It gives the clothes that "fresh air" smell which women like so much.

What will it do for the utility man?

(1) It will give you a good base load and, as dryers come into more general use, the gas consumed by them should develop into an important part of your revenue during every month of the year.

(2) If you can install a gas clothes dryer, you can keep that 220-volt line out of the house. It costs one-third as much to operate a dryer with gas as it does with electricity. It is no compliment to the gas industry that the electric models are outselling gas models today, two to one.

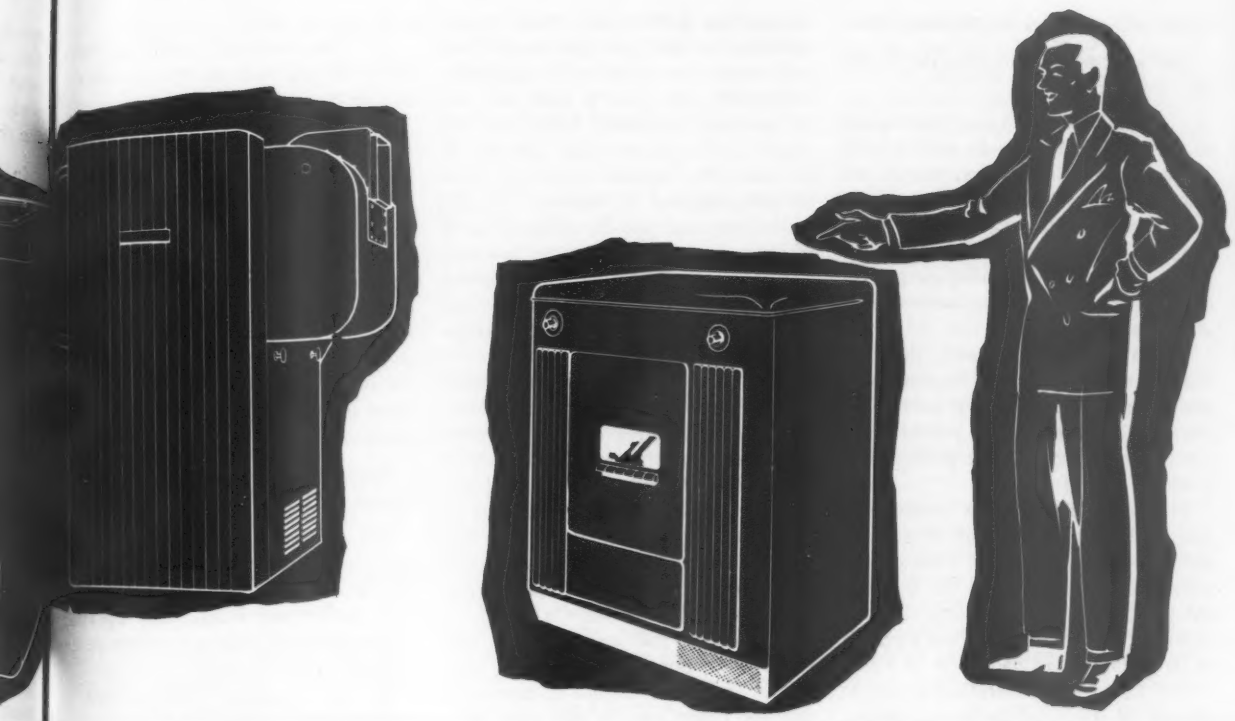
(3) A gas laundry dryer will help to keep the laundry in the home. The result is a natural increase in the gas water heating load.

How about the dealer, what will a dryer do for him?

(1) First, it provides him with a profit opportunity as big as existed for refrigerators in 1928. He now has something new to tell his customers, something new to offer them.

(2) A dryer sale is a clean sale. There is no trade-in to consider and it

Abridged version of paper presented before Residential Gas Section during 1949 A. G. A. convention.



has no competition with any other appliance the homemaker now has. It stands alone.

(3) It doesn't cost much to install a dryer or to service it. Extra heavy construction, careful engineering, and years of experience, are eliminating most of the service headaches which are common to many new appliances.

(4) Every time a dealer sells a dryer he makes a friend and a satisfied customer. Consumer satisfaction, consumer enthusiasm for the dryer in use, is probably greater than for any other appliance.

Do people want to buy dryers:

(1) They do. However, they need to be told about them. They need to know where and how they can buy them and for how much. How do we know this is so? Dryer manufacturers and utilities have conducted many consumer surveys. Here are the highlights from just a few:

A. The Hamilton Manufacturing Company tells of a recent survey by the magazine "Small Homes Guide" showing that one out of every six persons who are going to buy a washer, wanted to buy a dryer too. Someday, Bendix predicts, we'll sell a dryer for each washer.

B. "Better Homes & Gardens" studied plans for 49,000 homes. They found that 28 percent of the home builders specifically asked their architect to provide a place for a dryer.

C. The Curtis Publishing Co., in an extensive survey of the dryer market last year, predicted that 2,600,000 units would be sold in the five-year period between January 1, 1948 and January 1, 1954.

D. Mary N. Hall, home service director, Elizabethtown Consolidated Gas Co., reported in a splendid article in A. G. A. MONTHLY for March 1949, a customer try-out plan. A total of 270 dryers were installed and a later survey of these 270 users indicated that only two dryers were returned, both for reasons which did not reflect on the dryer itself.

E. A survey by Bendix Home Appliances, Inc. covering 1,140 purchasers who had used dryers a year or longer, showed that 94 percent were well pleased and would gladly recommend it to a neighbor.

Yes, people do want to buy dryers.

How do you sell dryers?

(1) You're going to sell dryers if you use the same tried and true methods of merchandising that have always proved successful before. You're going to have to carry the story to your customer and not wait for your customer to come to you.

(2) You're going to sell dryers by advertising, by enclosing folders with your invoices and by letting your customers know that you handle this marvelous new device.

(3) Put a dryer in your show window and run live demonstrations.

(4) "Use the user."

(5) Put dryers in the homes of prospects on a free home trial basis. "Dryers sell themselves" so well that no merchandising method has yet been found which is as successful as the free home trial program.

Get behind the automatic clothes dryer. It opens up a new industry, a new market and a new profit opportunity.

Gas-fired incinerators

The twelve manufacturers of gas-fired incinerators, who today form GAMA's Gas Incinerator Division, fully believe, from all indications of their present progress in surburban communities, that today's garbage and trash collecting

trucks will some day be museum pieces.

Just what will gas incineration do for the customer?

(1) Again it makes her independent of the weather. She has no need to plod outdoors three times a day, winter and summer, rain or shine, to drop refuse into outdoor containers.

(2) There is a tremendous appeal to the housewife in the ability to get rid of food scraps before they become pest-attracting garbage.

(3) Think of the appeal, the convenience of easy indoor disposal with minimum effort, of burnable trash. This trash service cannot be provided by other types of competitive garbage disposers.

(4) In addition to the sanitary aspect of the complete service of garbage and rubbish disposed of in a home, consider also the reduction in the fire hazard provided by accumulations of trash in homes. Such fire damage was reported to be $275 million nationally in 1948.

(5) Consider the fastidious appeal to women of improved living conditions, more gracious living.

(6) At the same time, as a by-product and without additional cost to the owner, an incinerator often helps to remove basement dampness in the summer and basement chill in the winter.

(7) More than one suburban gardener takes advantage of the fact that the ashes from an incinerator are a splendid fertilizer for flower and vegetable gardens.

(8) Over and above the convenience and sanitary aspects, which have a natural appeal to the home owner, he appreciates the fact than an incinerator improves property values. It improves the general condition of the neighborhood and adds prestige to the home.

What will gas-fired incinerators do for the utility?

(1) Again, in addition to supplementing your base load, the gas-fired incinerator compliments gas, as a fuel and it protects more competitive loads. The incinerator load is an every day load and the peak, if any, comes in mid-morning or mid-afternoon when the housewife is disposing of her trash. Usually, the summer load is higher than the winter one.

(2) Ira J. Rapson, assistant to the sales manager, Michigan Consolidated Gas Co., Detroit, is chairman of the Gas Incinerator Committee, A. G. A. Residential Gas Section. His recent paper, published in Gas Age, July 7, 1949, is well worth the attention of aggressive utility sales managers. It states the case for gas-fired incinerators better than any paper that has come to my attention. It has been Mr. Rapson's experience with his own company, for instance, that, the added base load tips the scales of many of their accounts from a losing, to a paying basis, at no additional cost to the utility. It protects existing loads and generally shows a substantial merchandise profit.

(3) Trouble-free operation and a minimum of service are important factors. The modern gas-fired incinerators, presently being manufactured, are blessed in this respect. They cannot be compared with the old stink-pots manufactured 15 years ago. Through the dehydrating and hot-blast methods, presently employed in gas incinerators, unbelievably satisfactory operation has been achieved.

(4) When you provide your customer with more healthful living conditions and a convenience he heretofore did not know, you, at the same time, render your community a service.

(5) From an operating point of view, it has been found that the modern incinerator goes on year after year without introducing any serious problems.

Huge market

What will the incinerator do for the dealer?

(1) First it provides him with a huge market which so far hasn't even been scratched.

(2) The gas-fired incinerator, from a sales angle, is an extra and substantial source of income.

(3) Manufacturers have a convincing sale story of sanitation and convenience. The need for such units in today's mode of living is tremendous.

(4) Every new home and most old ones contain a potential customer for the incinerator. In addition to the domestic market, there are the commercial enterprises such as schools, cafeterias, dentist's offices and medical centers.

(5) It should not be overlooked that apartment dwellers often buy these units out of sheer necessity.

(6) The cost of installation is insignificant. Most homes and buildings have adequate flues to accommodate a gas-fired incinerator. Small diameter tubing will generally carry sufficient fuel to supply the unit.

(7) The incinerator offers the dealer full profit, no trade-in, and an item that is easy to stock and deliver.

(8) Manufacturers offer all types, sizes and shapes of units, suitable for basements, kitchens, utility rooms, or recreation rooms.

(9) Last, but not least, of interest to the dealer, the incinerator is an appliance that is "easy to sell." If the merchandiser is willing to use all of the information available to him and put sincere effort behind a sales program, the incinerator can be brought into the home on a par with other major gas appliances.

People definitely want to buy incinerators.

(1) Changed living habits evolve new appliances. The modern gas-fired incinerator, individually installed in each shelter and individually operated, is steadily becoming a necessity in our present mode of living.

(2) The need is concrete and inescapable. Many cities are deep in studies of how to overcome the extra load placed on their garbage collecting and disposing equipment by swollen populations. The logical answer is a gas-fired incinerator in each dwelling.

(3) The shift to automatic heat often introduces the new problem of getting rid of that burnable trash, heretofore thrown in the coal furnace.

(4) Especially during the warm summer months, no garbage container can be maintained in a sanitary condition. Daily, additional cities are adopting codes restricting the burning of trash out-of-doors. Many large cities have banned the use of the sink grinder because of overloaded sewers and stream pollution.

(5) From the home owner's viewpoint, the gas-fired incinerator is a positive and necessary item in the scheme of modern, healthful living.

(6) Manufacturers have conducted surveys indicating the desire to purchase incinerators. GAMA is now conducting a nationwide survey for its Incinerator Division. Such surveys indicate a desire to buy due to two principal, and about equal, motives. Regardless of the original reason for the purchase of a gas-fired incinerator, present owners of such units have indicated that the convenience feature of the unit is about equal, *(Continued on page 46)*

Conversion to higher Btu gases

By HALL M. HENRY

Vice-President
NEGEA Service Corp.
Cambridge, Mass.

Part I of Mr. Henry's A. G. A. convention address analyzing effect of producing 660 and 951 Btu gases in place of a 528 Btu gas ran in the November Monthly. Part II begins below:

We have seen what 660 Btu gas can accomplish. Since the companies mentioned now find their capacities again inadequate, let us see what lies ahead should they go to 951 Btu gas.

G. G. Howie, vice-president and general manager, Cambridge Gas Light Co., as well as the writer, have already given much of the details in regard to the operating and economic results of using High Btu oil gas at Cambridge. While this is so, it was thought advisable, in this broader treatment of the economic results of elevating gas heating values, to include certain pertinent data previously revealed and some only now available. By including the results on 951 Btu gas, a comparison can be drawn as to relative benefits of 660 or 951 Btu gases.

Reasons for Cambridge's adopting a 951 Btu gas were briefly as follows:

(a) Connected loads exceeded the available plant and distribution capacity.

(b) It was impossible in time available to secure and have installed in time additional carburetted water gas capacity.

(c) An economic study at the time, based on available data, showed that a 951 Btu gas could be produced at no more than one cent per Mcf above holder cost of carburetted water gas.

(d) Changes to plant could be made in time to meet expected demands.

(e) Plant costs would be negligible.

(f) Customers' appliances could in general be converted satisfactorily.

(g) Expense of appliance conversion, while a sizeable item, would be amortized over a period of years and also partly offset by federal taxes.

(h) Plant and appliance changes are of the same general type as would be required for natural gas which is expected in New England at some future date.

Faced with this analysis, the company which had been considering the advantages of high Btu gas over a period of years decided to convert to 951 Btu gas.

The Cambridge Company has now operated on 951 Btu gas since August 1947, or slightly over two years. During this period it has had an opportunity to appraise the impact on earnings and operating results of sharply rising fuel prices; of deterioration in oil qualities; lately of falling fuel prices and now again rising fuel prices. There has also been the opportunity to compare Cambridge results with others. The following are some of the highlights of this two years' experience.

The company installed the twin generator oil gas process manufactured by The Gas Machinery Co., Cleveland, Ohio. Changes required were relatively simple and need not be elaborated upon as this process has been fully described.

The cost of the plant changes amounted to some $110,000 gross and after retirements was less than $40,000. In addition, the company installed an LP-gas-air plant to be used as standby. The total net additions (including an oil scrubber) amounted to approximately $130,000, bringing the net production plant investment to $2,223,123.

Had it been possible to install in time additional carburetted water gas equipment, the estimated cost for new plant to provide equivalent capacity was estimated at $3 million—or with the existing investment the net plant would have been $5,193,123.

Plans and projects

The Cambridge Company is now completing the installation of equipment to permit the use of heavy oil. These changes consisted of converting one of the three existing twin generator sets to a Hall heavy oil four-shell set. This was accomplished by relocating what was the original generator of the water gas set along side the old carburettor and installing a new superheater shell along side of the old superheater. Estimated costs are $80,000.

In addition, the company has installed a new two-shell set which incorporates all of the features of the Hall set but accomplishes this in two shells instead of four. The estimated cost is approximately $180,000.

The existing oil gas building is being extended 40 feet to house the new two-shell set and the new parts of the four-shell set, at an estimated cost of $50,000. A blower and miscellaneous items brings the total to $325,000.

With these changes the new net production plant investment will be $2,548,120. There will be certain retire-

ments to be deducted from these figures when the new changes are completed which will represent those plant changes made to use light oil and which are no longer needed. These retirements will not make a material difference in the conclusions.

Using the net plant investments for the several methods of producing gas it is possible to calculate the effect of fixed charges on the cost of gas. For our purposes the fixed charges have been computed at 13 percent and are based on a recent annual production figure of 2,608,000 Mcf. Comparative fixed charges are shown at right.

The comparison of production costs at right was prepared by G. G. Howie but adjusted by the writer to reflect current fuel prices. All but the heavy oil high Btu oil gas are based on actual company results. The heavy oil high Btu figures are based on the Baltimore tests using the Hall process.

The tabulation clearly shows the relative F.O.T.S. labor and maintenance costs and holder costs for producing gas under the three conditions outlined. These relative costs will vary depending on the prices for the various fuels used and the amount received for tar and light oils recovered.

For instance, in May 1947 (when the decision was made to go to high Btu oil gas using light gas oil) the comparative prices for heavy oil (special premium type) the company was then using was 5.62 cents vs. 7.02 cents for light gas oil or a difference of only 1.4 cents per gallon. At today's prices there is a 3.0 cents difference and just prior to the recent jump in heavy oil the difference was 3.5 cents per gallon. Were 1947 relative oil prices available today, then the holder cost of high Btu oil gas (using light oil) would be 5.64 cents more than carburetted water gas instead of 10.86 as of today.

On the other hand, the holder cost of oil gas using heavy oil at 1947 prices is only 2.69 cents less than carburetted water gas, whereas at today's prices there is 7.74 cents saving in favor of high Btu gas using heavy oil. The following table shows the relative costs of oil gas using light oil and heavy oil vs. heavy oil *carburetted water gas* at the oil prices shown. Other fuel and labor costs are assumed constant.

The holder cost represents only the production costs, the true relative price must include the fixed charges on the different investments required to pro-

	Carburetted water gas	Oil gas	
		Light oil	Heavy oil
	Actual plus estimated	Actual	Actual plus estimated
NET plant investment	$5 193 123	$2 223 123	$2 548 120
Fixed charges @ 13 percent	675 106	289 000	331 256
Fixed charges per Mcf	26¢	11¢	12.7¢

	September 1949 prices		
	Carburetted water gas	Oil gas	
		Light oil	Heavy oil
Operating results (528 Equiv.)			
Oil/Mcf/gals.	3.62	5.70	6.45
Coke/lbs/or tar gal/Mcf	19.06	.74	—
Boiler fuel/lbs/Mcf	14.5	8.5	8.5
Tar credit/gal/Mcf	.8690	1.14	1.27
Light oil credit/gal/Mcf	.0425	0.141	.19
Unit fuel prices			
Oil cents/gal	5.0¢	8.0¢	5.0¢
Coke $/ton	16.00	—	—
Boiler fuel (coke breeze)	$6.57	$6.57	$6.57
Tar—cents/gal.	5.5¢	5.5¢	5.5¢
Lt. oil recovered	8.0¢	8.0¢	8.0¢
F.O.T.S. cents/Mcf			
Oil	18.10¢	45.60¢	32.29¢
Coke or tar	15.25	4.07	—
Boiler fuel	4.77	2.80	2.80
Total	38.12	52.47	35.09
Less tar	4.79	6.27	6.99
Balance	33.33¢	46.26¢	28.10¢
Less lt. oil	.34	1.13	1.57
Total F.O.T.S.	32.99¢	45.13¢	26.53¢
Labor & Maintenance costs/Mcf			
Labor	6.78¢	5.50¢	5.50¢
Miscellaneous works expense	.95	.95	.95
Maintenance	3.28	3.28	3.28
Total other	11.01¢	9.73¢	9.73¢
Holder costs	44.00¢	54.86¢	36.26¢

	Carburetted water gas using actual data	Oil gas: Light oil using actual operating data	Oil gas: Heavy oil estimated on Baltimore results
1947 fuel prices			
Oil prices	5.62	7.02	5.62
Holder costs	43.78	49.42	41.09
1948 fuel prices			
Oil prices	8.0	10.34	8.0
Holder costs	54.10	67.35	53.20
1949 fuel prices			
Oil prices	5.0	8.0	5.0
Holder costs	44.00	54.86	36.26

duce gas with the various fuels. The table at right clearly shows the impact of the fixed charges (previously calculated when added to the holder costs):

It is interesting to point out that an independent firm of engineers hired by Massachusetts Department of Public Utilities to aid it in an investigation of the company's rates, testified that in their opinion the company had saved 4-7 cents Mcf by going to high Btu oil gas instead of continuing with carburetted water gas. The above figures show that at 1947 prices on the light oil which the company was using there was a saving of 9.36 cents per Mcf. At today's relative prices, the savings are 4.14 cents on light oil and are expected to reach 21.04 cents per Mcf using heavy oil.

As pointed out previously, the company was also short of distribution capacity and would have had to enlarge its pumping equipment and mains, services, etc. It was estimated that a minimum of $750,000 would have been required. At 13 percent, this meant an additional expense per Mcf of 3.7 cents that would have been imposed on the company had it continued with 528 Btu gas. It is difficult to estimate the additional capital savings which have been realized because services and meters do not have to be replaced whenever added loads are taken on, but these will be substantial as the company continues to expand its kitchen and house heating market.

Use of 951 Btu gas resulted in an expenditure of $580,000 which is being amortized over a 14-year period. The first year the company wrote off 40 percent of the changeover expense (equal to federal income tax on the total changeover expense). The annual write-off is equal to about 1.25 cents per Mcf. This is negligible compared with the 15-21 cents per Mcf that would have been assessed annually against the gas sales had the company been required to make capital expenditure projected to enable it to continue to use carburetted water gas instead of oil gas using heavy oil.

One added expense that must be assessed against the use of High Btu gas is the larger "unaccounted-for" gas therms. If we take the increase in "unaccounted-for" as being proportional to the rise in heating value, then Cambridge should have shown an 80 percent increase in its "unaccounted-for" gas. The actual Mcf "unaccounted-for" figures on a 528 Btu equivalent basis for the two years prior to the changeover and two years since are shown in the following table. We have shown two other companies in our system so that allowances might be made by any one interested for weather conditions.

	Carburetted water gas	Oil gas	
		Light oil	Heavy oil
Total cost of gas in cents/Mcf			
1947 prices	69.78¢	60.42¢	53.57¢
1948 prices	80.10	78.35	65.90
1949 prices	70.00	65.86	48.96

If the "unaccounted-for" gas were assumed to have been increased in proportion to the increase in heating value then the extra cost would have amounted to about one cent per Mcf.

Another question that probably arises is, how has the increase in heating value affected the servicing costs. Based on the reported service calls (and these include the turn-on and turn-off of heating equipment) and the number of heating customers have risen by 54 percent since the changeover, the calls are less today than preconversion. We cannot find any basis for thinking the service is greater with an increase in heating value of the gas.

It has been our good fortune (and I use these words advisedly) to have undertaken a substantial refinancing program during the past three years.

At the start of this program our financial people ran into a rather definite aversion to our securities *due to the high proportion of gas revenues*—one-third of the total. This aversion was so serious that we delayed launching our financing program by six months. In the meantime we had an opportunity to tell the financial analysts about the new development in gas and what A. G. A. was doing in research and more specifically what could be done and what we proposed to do with high Btu oil gas.

Needless to say, our new issue was overwhelmingly subscribed and so much so that it was the talk of the financial world at the time. We were later told by some of the financial people that instead of our high proportion of gas being a millstone around our financial neck it turned out to be the extra incentive that made our stock attractive.

Recently we were told by several financial analysts that they knew of no industry outside of the manufactured gas industry that had a solution for its capital needs over the next five years and could look forward to lower production costs. This speaks volumes for the work of A. G. A. Gas Production Research for they were talking about the impact of high Btu oil gas on capital needs and operating costs using heavy oil high Btu gas process. From our viewpoint, we wonder how we would successfully meet growing demands for gas were it not for the economic impact of high Btu oil gas with or without heavy oil (but more specifically with heavy oil) on our industry.

When all is said and done, the balance-to-surplus line on the earnings statement tells the real story. Cambridge Gas Light Company is now earning a satisfactory rate of return. Furthermore, it is expected (and the rates have been prepared for filing) to reduce the rates to Cambridge consumers by about ten percent shortly after the new heavy oil gas sets are in operation.

In conclusion, we can make the following observa- *(Continued on page 48)*

Before Change	**Cambridge**	**Company A**	**Company B**
1946 (12 mos.)	112,151	86,159	180,769
1947 (12 mos.)	120,469	84,902	279,695
After Change			
1948 (12 mos. July)	178,169	98,189	266,529
1949 (12 mos. July)	116,675	89,694	369,533

Industry news

Chicago utility plans novel gas exhibit

A $100,000 gas industry exhibit will be built at the Museum of Science and Industry during the coming year by The Peoples Gas Light and Coke Co., Chicago, Illinois.

This fact was announced by James F. Oates, Jr., chairman of the gas company at the closing session of the 1949 American Gas Association convention. The opening of the exhibit early in September 1950 will coincide, Mr. Oates said, with the company's observance of 100 years of gas service in Chicago.

Although the exhibit is planned as a major part of the centennial celebration, it will be presented to the public as a permanent educational feature maintained by the utility. It is anticipated that more than one and one-half million people of all ages will see the exhibit each year.

Preceding Mr. Oates' remarks, Everett J. Boothby, president, Washington Gas Light Co., Washington, D. C., presented a resolution to the convention group. It read in part, "that the Executive Board of the American Gas Association hold its early 1950 Fall meeting in Chicago as a token of appreciation in the establishment of the gas industry exhibit at the Chicago Museum of Science and Industry by The Peoples Gas Light and Coke Company" and "that a special committee of five distinguished leaders in the American gas industry, who are non-residents of Chicago, be appointed by the president to represent the A. G. A. at the dedication of the exhibit."

Detailed plans for construction of the exhibit are being worked out by Peoples Gas designers in cooperation with Major Lenox R. Lohr, museum president, and his staff.

The company's display and home planning bureau, under the direction of Harry H. Swenson and Herbert C. Hanson, staff architect, is now engaged in translating into colorful, visual displays the technical data supplied by the company's operating engineers.

The exhibit will deal with the history of gas only to a limited degree and will stress modern production and utilization of gas as a fuel.

It will take the visitor, step by step, from the time manufactured gas is produced in the coke ovens and natural gas is received from the wells in Texas until the mixture of the two types of gas reaches consumer appliances.

As a further means of telling the story of gas, historical highlights of the industry's development will be used throughout the exhibit as interpretive background material.

One part of the exhibit will employ miniature models of gas manufacturing equipment encased in a transparent material. Electronic devices are planned to achieve animation in some of the displays as spectators approach them.

Besides the miniature displays, actual-size models and flow diagrams will visually show the operation of a gas refrigerator, residential heating and air conditioning units, a modern gas range, a gas meter and thermostatic controls in use on various types of gas equipment.

A model New Freedom Gas Kitchen will also be a part of the exhibit. In addition to featuring various gas appliances it is to be built as a means of showing the public the latest in functional kitchen arrangement.

A six-foot statue of Prometheus, whom mythology credits with stealing fire from Heaven to give to man, furnishes the thematic approach for the exhibit. The Prometheus statue was carved in mahogany by Chester Kirk, a Chicago sculptor.

Today, gas is used for cooking, refrigeration, water heating or house heating in 900,000 Chicago homes, and in more than 12,000 ways by almost 52,000 Chicago industries and commercial establishments.

Brooklyn Union marks hundredth birthday

THE ONE HUNDREDTH ANNIVERSARY of The Brooklyn Union Gas Co., largest utility in the country engaged exclusively in the production and distribution of manufactured gas, was celebrated on an impressive scale last month.

To mark the anniversary, the gas company honored its employees with a special dinner and dance, a special press party was held, and exhibits depicting the evolution of gas appliances were placed in general and branch offices.

Since 1849, The Brooklyn Union Gas Company has grown from the pioneer Brooklyn Gas Light Company into a utility which today serves over 3,500,000 people in its territory. By the fall of 1950, the company will enter into a mixed gas operation when it receives its first natural gas from Texas. Approximately 4,500 men and women are now in the company's employ, most of them residents of the community they serve.

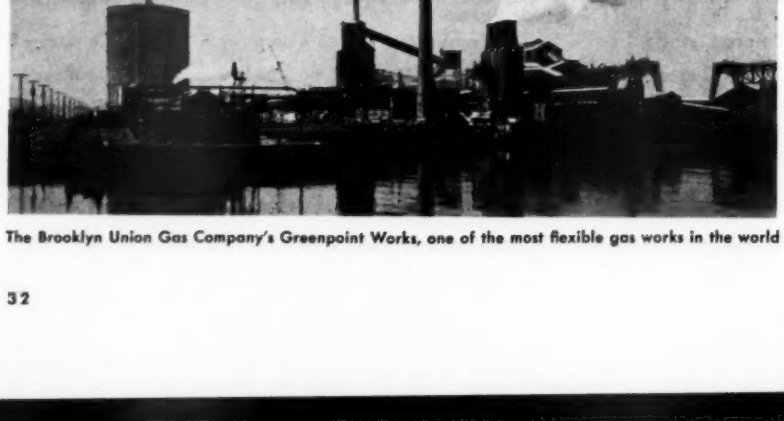
First major event in the utility's history was in 1849 when the company introduced gas street lighting into Brooklyn, then an incorporated city of about 100,000 population. In 1895, The Brooklyn Union Gas Company was formed through the consolidation of 11 existing companies. A few years later, six more companies were added, operated as subsidiaries until 1927, then merged with the parent company.

Near the beginning of the century, decades before most companies had them, Brooklyn Union had developed a pension system and other farsighted projects, many of which were effected by James H. Jourdan, son and successor of the firm's first president.

In 1935 when Clifford E. Paige was installed as president, sales were less than 20 billion cubic feet a year. Today, under Mr. Paige's civic-conscious direction, annual sales of gas are over 35 billion cubic feet. Hugh H. Cuthrell, vice-president of Brooklyn Union and a leader in gas industry promotional activities, is currently serving as president of American Gas Association.

Promotion-wise, Brooklyn Union offered promotional rates to both residential and industrial customers; developed new uses of gas for industrial heat and energy; and for the homemaker, promoted gas refrigeration, gas house heating, modern automatic gas ranges and gas water heaters, and all-year gas air conditioning. A "plumber-dealer" agreement signed with representatives of over a thousand master plumbers in the area has since accounted for more than a third of the appliances sold by or through the gas company.

Throughout the years, the community factor has received more and more emphasis. A $25 million expansion program was initiated, despite the drag of postwar inflation. Latest achievement was closing a contract this year for Texas natural gas to be delivered sometime in 1950-51.



The Brooklyn Union Gas Company's Greenpoint Works, one of the most flexible gas works in the world

Gasco Food Institute reactivated in Ohio

THE OHIO FUEL GAS COMPANY'S 1950 Gasco Food Institute is on the road with two "companies" telling the story of gas to women in 80 Ohio cities. The Institute gained popularity during six years of operation before World War II forced its discontinuation. It was resumed this year after a lapse of seven years.

A handsome New Freedom Gas Kitchen constructed by the gas company's display shop is installed on movable trailers for each show. In preparation for the showings three "Betty Newtons" and their helpers worked in the home service test kitchen for four months this year, testing and retesting more than 200 recipes which had been judged on the basis of nutritive value, appearance, taste, cost, and ease of preparation.

In each town visited, the company's "Betty Newton" (home service girl), and the local manager have parts. Numerous other employees play assisting roles. Shows are presented in theaters and school auditoriums with the cooperation of local newspapers and merchants. Admission is free and numerous prizes, including a gas range, are given away in each town.

J. H. Olsen, advertising manager, is in charge of the Institute. J. E. Humphreys, business promotion manager; Mary E. Huck, home service director, and their assistants all are starting now to plan for the 1951 production.

One of Gasco Food Institute's mobile trailer units containing a handsome New Freedom Gas Kitchen. Reactiviated this year, the institute presents its shows in local Ohio theaters and auditoriums

Offshore drilling

SOUTHWEST RESEARCH INSTITUTE at San Antonio, Texas, has printed a bibliography on "Offshore Petroleum Developments." This is a comprehensive recording of authors, references and titles of all the important literature on a major development.

Copies of the bibliography may be obtained from the Division of Oceanography and Meteorology, Southwest Research Institute, 312 Oil and Gas Building, Houston, Texas.

This New Freedom Gas Kitchen was a center of attraction in House Beautiful's Pace-Setter House

Nation views all-gas Pace-Setter House

MODERN gas service is the key to the kitchen, automatic laundry and heating system of House Beautiful magazine's 1949 Pace-Setter House which has captured the fancy of thousands of visitors and readers.

The $80,000 model home in Orange, N. J., features all-gas services provided by Public Service Electric and Gas Co., Newark, N. J. Extensive publicity and promotion, plus a considerable amount of newspaper advertising sponsored by the gas company, have made the project attractive to the builder. Contact with House Beautiful was established through American Gas Association which is distributing New Freedom Gas Kitchen reprints of the magazine's 80-page feature on the home.

Extensive advance publicity for the project was obtained by means of a preview press party held for gas company officials, the architect and his designer, local dignitaries, and the editors of House Beautiful.

The house itself was featured by the magazine as an impressive climate control project. Construction data, design and location all were studied in detail so that the advantages of terrain, position of sun during summer and winter, location of windows, rooms, and other features, would give maximum benefit to the occupants.

A handsome New Freedom Gas Kitchen and other gas-fired installations in a unique architectural setting have made the project one of the most popular of the year. (See inside cover of MONTHLY for further details.)

New Freedom gas calendar available

AN ATTRACTIVE four-color New Freedom Gas Kitchen calendar for 1950 is now available in quantities for distribution to gas utilities, manufacturers, dealers and others. Four beautiful modern kitchens which originally appeared in A. G. A. national advertisements, provide the main illustrations. Divided into quarterly sections with a different kitchen view in each section, the calendar contains strong selling copy for gas water heating, cooking and refrigeration. The automatic gas laundry is featured in several illustrations and the back of each section contains additional promotional material in color.

Cost of the calendar, f.o.b. New York City, including individual company imprint, is as follows: Over 10M, 5½¢ each; 5 to 10M, 6¢ each; 1 to 5M, 6½¢ each; under 1M, 7½¢ each. Plain Kraft envelopes, nine by 12 inches, can be furnished if desired in any quantity at $12.50 per M. All orders should be addressed to Eldredge Company, 275 Morgan Ave., Brooklyn 6, N. Y.

Cleveland gets colorful gas range display

Novel sidewalk display depicting the growing domestic gas range industry in Cleveland, Ohio

IN A JOINT EFFORT to picture the growing domestic gas range industry in Cleveland, an attention-arresting sidewalk display was exhibited, October 10-17, by The East Ohio Gas Co., the three local gas range manufacturers and American Gas Association Laboratories, on Cleveland's busiest corner.

Colorfully pointing out the number of Clevelanders who share in the $15 million annual payroll manufacturing these nationally known gas ranges and the number of ranges produced daily, the display stressed the fact that Cleveland is also the home of the Association's Laboratories where gas appliances earn the trade-marked Approval Seal.

Three of the tests on gas ranges applied at the Laboratories were exhibited stressing satisfactory baking performance, cool kitchens and effective utilization of gas. The Perfection gas range was shown with four freshly baked cakes (changed daily) along with the Laboratories' "Magic Eyes" used to evaluate the baked products. The Grand gas range was displayed with the electronic indicator for determining the surface temperatures in each of the squares marked on this unit. Similarly, the Magic Chef range and some of the necessary gas analysis equipment required was shown as an example of the methods used to insure complete fuel utilization.

The display site was obtained through facilities of the Cleveland Trust Company. It was made possible as part of the gas company's $75,000 contribution to the Old Stove Round Up.

New process for spherical construction

A NEW METHOD of designing and building welded spherical tanks and other double-curved plate surfaces is reported by J. O. Jackson, vice-president, engineering and research, Pittsburgh-Des Moines Steel Company. Savings of about 20 percent of the required metal and welding time in construction of the usual spherical tank are claimed for the process.

The method consists of forming the desired object of a suitable plastic material, softened by heat and allowed to cool between dies, or otherwise restrained to the desired shape. Edges of the pieces are then trimmed to the outline required, after which the trimmed piece is relaxed by heating to the softening point when it will flatten and assume the outline of a shaped flat piece, which, if dished or formed to the proper shape, will flow plastically to produce a finished piece.

For example, an Icosasphere is a sphere laid out along the expanded lines of four adjacent faces of an icosahedron (20 triangular faces). Five plates cut the proper shape and dished will form a complete sphere. These plates can be cut from one rectangular plate with a remarkably small scrap loss. As the size of the sphere increases, the five parallelogrammic units are further subdivided. Designs have been prepared based on subdividing each side into two, three, four, and eight subdivisions.

Full details of the process are contained in Research Report 7815, published by Pittsburgh-Des Moines Steel Co., Pittsburgh. The company has also applied for patent rights which cover both the design and construction of the Icosasphere.

Commonwealth Services organization completed

COMPLETION of the organization of Commonwealth Services Inc., formerly The Commonwealth & Southern Corporation of New York, was announced last month by Granville H. Bourne, president. Organization of a wholly owned engineering subsidiary, Commonwealth Associates Inc., was also announced.

The service company, which was formerly owned by the operating companies in the Commonwealth System, with its services limited to these companies, is now established as an independent company authorized to conduct business in public utility, industrial and other fields. Offices are located in New York and Jackson, Mich., the latter city being the headquarters of the engineering organization.

Stock of the company is owned by its officers and employees, numbering about 400 people. The company and its predecessors have a business history of more than 40 years.

The company has handled more than a billion dollars of financing work over the past 15 years. Services offered by the Commonwealth organization include financing, engineering, accounting, taxes, insurance, pensions and welfare plans, rates and rate audits, purchasing, merchandising, public relations, stock transfer, and general consultation and reports.

Officers, who are also the directors of Commonwealth Services Inc., are: Granville H. Bourne, president; William G. Bourne, Jr., vice-president and treasurer; William H. Tippy, J. H. Foote, and Walter J. Herrmann, vice-presidents; Harold S. King, comptroller, and Edward E. Nelson, secretary.

Officers of the new engineering organization are: J. H. Foote, president; George C. Daniels and J. R. North, vice-presidents; Edward J. Dissmeyer, secretary, and Russell W. Parkinson, treasurer, all of Jackson, Michigan.

Professional services of the engineering company include consulting and design engineering in the electrical, mechanical, structural and power plant fields, together with engineering investigations and analyses, and the preparation of expert testimony and reports.

Record interest greets INGAA meeting

A RECORD CROWD of 200 persons attended the 1949 annual meeting of Independent Natural Gas Association of America at Dallas, Texas, October 31. Clyde H. Alexander, president, Creslenn Oil Co., was chosen new president of the group.

Other new officers are: first vice-president—Homer W. Long, Guymon, Okla.; second vice-president—C. P. Rather, president, Southern Natural Gas Co., Birmingham, Ala.; reelected treasurer—F. W. Peters, Oklahoma Natural Gas Co., Tulsa, Okla.; reelected executive director—John A. Ferguson, Washington, D. C.

Several of the papers presented at the meeting were concerned with legislation and regulation, including: "Legal Problems For the Natural Gas Industry"; "A Look Into the Legislative Future"; "Overlapping Problems of State and Federal Regulation"; and "Methods and Laws Relating to Gas Measurements." Other papers were "Winter Supply Problems of Producers and Gatherers"; "Winter Supply Problems of Transporters"; "Status and Prospects of Natural Gas From Tidelands," and "Competitive Position of Natural Gas Versus Coal, Fuel Oil, Manufactured Gas and Atomic Energy." A motion picture in color depicting the history, development and operations of Oklahoma Natural Gas Company and its service in Oklahoma, was shown with introductory remarks by Joseph Bowes, president of that company.

Copies of the papers may be obtained from John A. Ferguson, Independent Natural Gas Association of America, 1700 Eye Street, N. W., Washington, D. C. Information on the motion picture may be obtained from Oklahoma Natural Gas Co., Tulsa, Oklahoma.

Dietitians shown advantages of gas cooking

FIFTEEN HUNDRED of the nation's top dietitians saw the advantages of gas for large volume cooking dramatized during the annual convention of American Dietetic Association in Denver, October 10-14, 1949. The American Gas Association's attractive information center and lounge featured six illuminated glass panels with cartoons depicting the features of modern gas service. Another section of the booth contained a montage of outstanding gas installations.

The convention drew members of the association from all sections of the country with a large delegation of dietitians from the West Coast.

Gas equipment was on display in several areas. One was American Stove Company's booth, another a gas-fired dry heat table exhibited by Duke Manufacturing Company. Royce L. Parker Company showed a gas-fired steam jacketed kettle. Savory toasters and the Cleveland Range Company's "Steamcraft" cooker were displayed by a local distributor. A new, small steam pressure cooking device was demonstrated by Market Forge Company.

Next year the annual convention of American Dietetic Association will be held in Washington, D. C.

West sees latest commercial gas appliances

RESTAURANT MEN from all parts of the United States gathered at the Biltmore Hotel in Los Angeles, October 3-5, 1949, for the Pacific Coast regional restaurant convention.

Southern California Restaurant Association sponsored this regional meeting which reached a new high in attendance with over 8,000 registered delegates.

Features of vital interest to those in the restaurant industry packed the three-day meeting, keynoted by Andrew J. Crotty, Jr., president, National Restaurant Association, in his address, "The Reward of Joint Effort in the Restaurant Industry."

The combined exhibit of Southern California and Southern Counties Gas Companies and 15 gas-fired restaurant equipment manufacturers was the highlight of the three-day exhibition given in conjunction with the convention. Topped by the familiar four-foot-high neon blue flame and two revolving chefs' heads, the gas industry exhibit included 14 separate displays. Largest at the show, the crowd-drawing exhibit took up three complete aisles. This united effort of the gas industry was, in fact, an expansion of the cooperative exhibit inaugurated at the 1946 Restaurant Association Convention.

This sensational display was tied together through the use of uniform signs, backdrops and railings. Featured were beautiful new stainless steel gas appliances that make modern all-gas restaurant kitchens as outstanding in appearance as they are in performance. This modern gas equipment was displayed to advantage in the exhibits of Wolf Range and Manufacturing Co., Savory Equipment, Inc., Cleveland Range Co., Rehco Corp., National Cornice Works, The Montague Co., Delux Range Co., Connerton Appliance Co., Anetsberger Brothers, Inc., Market Forge Co., Vulcan Division—Hart Manufacturing Co., The G. S. Blodgett Co., Inc., J. C. Pitman and Sons Sales Corporation.

Also participating in the exhibit was A. O. Smith Corp., showing their new instantaneous two-temperature water heater, and Gas Consumers Service. The Natural Gas Bureau presented a series of 48 color slides of the more prominent gas restaurant installations in Southern California. Included were Hody's and Webster's La Cienega, 1949 winners in Institutions Magazine's annual food service contest.

Another important contribution of the gas industry was the complete baking demonstration sponsored by Southern California Gas Company under the joint auspices of American Baking Institute and Natural Gas Association of California. As the finale for the business sessions, this demonstration, "Baking Before Your Very Eyes," left a favorable and lasting impression of the superiority of gas for restaurant baking.

Other features of the three-day meeting covered a wide range of subjects amounting practically to a post-graduate course in restaurant management. Included were: a panel discussion by members of Wine and Food Society of Los Angeles. "The Public Looks at the Restaurant Industry," giving an insight into preferences in food and service; a talk on employee relations by a specialist, John B. O'Meara, and a display of the latest in restaurant uniforms by Hollywood starlets and professional models.

Of a more serious tone was the address by Armin Kusswurm, counsel for National Restaurant Association. His "Why Restaurants Fail" revealed proven stumbling blocks in restaurant operation.

The successful 1949 convention closed with the official banquet and ball on the evening of October 5 in the Biltmore Bowl.

Combined exhibit of Southern California Gas Company and Southern Counties Gas Company at Pacific Coast regional restaurant convention. More than 8,000 registered delegates attended the meeting

Albuquerque gas facilities purchased

ALBUQUERQUE, NEW MEXICO, became a part of Southern Union Gas Company's distribution system at the close of business on Friday, September 30, 1949. The utility began serving natural gas directly to 24,000 customers there following purchase of the natural gas distribution facilities in Albuquerque from Public Service Co. of New Mexico.

Significance of the transaction, according to C. H. Zachry, Southern Union president, is that the company now distributes gas directly, rather than indirectly, to Albuquerque. Since 1930, Southern Union has owned the gas distribution franchise in Albuquerque but had assigned the franchise and delivered gas to Public Service Company for distribution in that city.

Southern Union also acquired the gas department employees of Public Service Company. Tom Corr, Southern Union's northwestern New Mexico district manager, has moved his office from Santa Fe to Albuquerque and will have general supervision over operations there. Named to assist Mr. Corr with district operations is T. A. Wilson, Farmington, New Mexico, Southern Union production and transmission superintendent, who has been promoted to assistant district manager with headquarters in Farmington.

C. H. Zachry

Twenty-one year old Southern Union serves 160,000 natural gas consumers in 42 towns and cities in Texas, New Mexico and Colorado. Company headquarters are in Dallas.

New peak load storage method tested

INITIAL OPERATION of a new type of storage facility for natural gas was started recently in Warren, Pennsylvania. The method uses a solid fireproof adsorbent material within an above-ground container.

According to C. V. Spangler, J. F. Pritchard & Co., the pilot plant stores methane on granular adsorbent "fullers earth." It is believed that fuel stored in this manner will not flow away as a liquid nor escape readily as a gas and will be difficult to ignite.

Storage on adsorbents is being developed as a safe method to meet peak load demands during winter months. Storage plants provide a place to put off-peak gas as contrasted to peak load plants that make gas from other materials. Since the stored gas is the same gas as that distributed, no interchangeability problems are involved. Plants using adsorbents for storage would present no more than ordinary gas-plant operating hazards.

Present plans call for a thorough testing of this storage method with the new pilot plant which is being operated by J. F. Pritchard & Company in conjunction with Floridin Co., Warren, Pennsylvania. A demonstration run is planned which may be witnessed by all interested gas company engineers and officials.

Ebasco announces safety award winners

OVER 100 PEOPLE representing 40 companies attended the eleventh annual Ebasco client companies safety meeting held at the Congress Hotel in Chicago, October 24-26, in conjunction with the National Safety Congress. The event was the largest client company meeting to date with many line organization people participating.

Features of the meeting included a dramatization of an actual accident investigation, a panel session "What's Your Problem?" a safety man's clinic, separate round-table discussions of safety problems connected with gas and electric operations, and a panel discussion of company safety programs.

During the annual safety luncheon, R. A. Sharon, general consultant, Ebasco Services Inc., announced the winners of the Ebasco Safety Award presented annually to companies in the group which better the national averages of their respective industries by 25 percent or more. One of the two highest honors went to the electric and gas department, New Orleans Public Service Inc. Other utility company winners included United Gas Pipe Line Co., Shreveport, La., and West Tennessee Gas Co., Jackson, Tenn., Mississippi Power & Light Co., Jackson, Miss., and Superior Water, Light & Power Co., Superior, Wisconsin. Gold and silver plaques and achievement certificates will be presented to the presidents of the winning companies at Ebasco's annual presidents' meeting in New York on December 5.

Lone Star stages huge fair exhibit

NEW FREEDOM GAS KITCHENS accenting color and providing maximum comfort, convenience and efficiency features for housewives, were among the highlights of Lone Star Gas Company's large exhibit during the State Fair of Texas in Dallas this fall.

The utility's spectacular exhibit in the natural gas building included 25 different brands of gas ranges shown to approximately 80,000 women visitors. Following the fair, the exhibit was shown in each city and town served by Lone Star.

Newspaper advertisements were employed as a build-up for the fair exhibit as well as a teaser series for the Old Stove Round Up. A special advertisement announced the visit of Sue Egan, noted kitchen stylist, and smaller advertisements about the gas kitchens were placed in several regional magazines.

In its drive to use every known kind of promotion to sell gas ranges, Lone Star used the State Fair exhibit building as a definite part of the Old Stove Round Up campaign, which started on the opening day of the fair. The promotion is paying off now in sales.

October range shipments at all-time high

MANUFACTURERS' SHIPMENTS of gas ranges reached an all-time high in October when 260,000 units were shipped, according to preliminary reports received by Gas Appliance Manufacturers Association. Previous highest monthly shipments were reached in May 1948 when 257,800 units were shipped and in October 1948, when 257,500 gas ranges were shipped.

October shipments exceeded by 78 percent the 1936-1940 prewar average October shipments.

A substantial upward trend in gas range sales started in July and progressive gains have been made every month since. Gas range manufacturers reported backlogs of orders in August and the majority of dealers have been on allocation since August.

Among the factors which helped to increase gas range sales in the third quarter of 1949 was the nationwide Old Stove Round Up promoted by American Gas Association and Gas Appliance Manufacturers Association in which 30 manufacturers, 300 gas utilities and approximately 40,000 dealers are participating. Main objective of the campaign is to sell one million gas ranges and the quota is expected to be exceeded by the end of the year.

LPGA to push nationwide promotion

APPROVAL AND SUPPORT of the proposed nationwide promotional program of the liquefied petroleum gas industry has been voted by the Liquefied Petrolum Gas Association, according to a recent announcement. A resolution pledging the organization's complete cooperation with the campaign was adopted recently by its board of directors.

LPGA is the first of several trade associations identified with the LP-gas business expected to join forces in the industry promotion. The California Natural Gasoline Association, Gas Appliance Manufacturers Association, National Butane-Propane Association and Natural Gasoline Association of America will also be invited to participate.

Preliminary plans for the program, were worked out at Denver, Colo., this fall by a planning committee headed by John C. Pankow, sales manager, Detroit-Michigan Stove Company. They include broad-scale advertising and publicity campaigns, employee training courses and special public relations activities. Financed by voluntary industry contributions, the campaign will be directed by a national committee for LP-gas promotion to be appointed shortly.

A.G.A. continues as gas practice course sponsor

THE HOME Study Course on American Gas Practice formerly conducted by Columbia University will be continued personally by Professor Emeritus Jerome J. Morgan until such time as the new course on gas manufacture, now being prepared by Institute of Gas Technology, is available for enrollments. As formerly, the course on American Gas Practice will be sponsored by American Gas Association which will issue certificates to students completing this course.

During the time when the course is handled personally by Professor Morgan, the students will receive the same material and instruction which those enrolled through the University have been getting. The only difference will be that the course and the students enrolled in it will have no connection with Columbia University. Inquiries on this course should be addressed to Professor Jerome J. Morgan, 67 Salter Place, Maplewood, N. J.

A.G.A. analyzes general rate changes

GENERAL RATE CHANGES in the years 1947 and 1948 were effected by 134 gas utility companies according to a report just completed by the Rate Committee, American Gas Association. While the report does not purport to be a complete coverage of the industry with respect to gas rate changes, the committee under the chairmanship of Robb Quinby, The Brooklyn Union Gas Co., believes the companies accounting for the substantial rate changes reported comprise the greater percentage of the sales of gas and revenues therefrom in the entire gas industry.

Manufactured gas companies constituted the greatest majority of reporting companies. More than 100 manufactured and mixed gas companies found it necessary to apply for rate relief during the two-year period. Rate increases were received by all of these companies.

In the natural gas branch, while most of the companies had requested and were granted rate increases, there were several companies reporting rate decreases. The majority of the liquefied petroleum gas companies covered reported increases in rates.

Changes in fuel and labor costs were quoted in most instances as the underlying reason for changes in rates. This was particularly true in the manufactured gas branch where the over-all earnings picture was most affected by rising costs. Changes in taxes necessitated requests for rate increases by some companies in both the manufactured and natural gas departments.

Jacob D. von Maur

Jacob von Maur

known throughout the gas industry as the "daddy" of the annual distribution conference and as a pioneer in the introduction of medium and high pressure gas distribution through district governors to a low pressure system, died in Toronto, Canada, November 22, 1949.

For 23 years, Mr. von Maur was engineer of distribution for The Consumers' Gas Co. of Toronto, until January 1, 1947 when he relinquished active direction of distribution work to become a consulting engineer with the company. He was also a past-president of Canadian Gas Association. Last spring he was feted at the 1949 A. G. A. Distribution Conference which was named in his honor.

Prior to moving to Toronto in 1924, Mr. von Maur served for 21 years with The Laclede Gas Light Co., St. Louis, Mo., holding the position of superintendent of distribution. Before 1903, he spent five years with The United Gas Improvement Co., Philadelphia.

John Kean

prominent banker and public utilities official, died October 23 in Roosevelt Hospital, New York, N. Y., at the age of 60.

Mr. Kean was president of five utility concerns—Elizabethtown Consolidated Gas Co., Elizabethtown Water Co., Consolidated, Somerville Water Co., Perth Amboy Gas Light Co., and Plainfield-Union Water Company. He was also an official of other utilities in the state.

He was the descendant of a family distinguished in New Jersey and national affairs for nearly 200 years.

Mr. Kean began a law career in Newark, N. J., after graduation from Harvard Law School. Following World War I, he dropped his law career and turned to the banking and utilities field, in which his father had many interests.

Surviving are his wife, Mary-Alice; two sons, John Kean, Jr., and Stewart Barney Kean; a daughter, Mary-Alice Kean, and a brother, Robert Winthrop Kean, of Livingston, a United States Representative.

Paul A. Fusselman

general superintendent, Philadelphia Electric Company's gas transmission and distribution department, was found dead in his home in Philadelphia on November 23, apparently the victim of a heart attack.

A graduate of Lehigh University, Mr. Fusselman had been associated with the utility industry since 1909. Following service in World War I, he was affiliated with Counties Gas and Electric Company prior to its merger with Philadelphia Electric Company.

A member of American Gas Association, he regularly attended meetings of the Technical Section and was active on the Association's Committee on Domestic Gas Research. He was also a member of Pennsylvania Gas Association.

Rainey joins East Tennessee Gas Company

FRANKLIN T. RAINEY, formerly assistant to the president, The Ohio Fuel Gas Co., Columbus, Ohio, has joined East Tennessee Natural Gas Co., Nashville, Tenn., as vice-president in charge of operations of that company's pipeline.

Mr. Rainey has been an active member of American Gas Association for many years and in 1940 served as chairman, A. G. A. Industrial Gas Section. At present he is a member of five important committees.

A graduate of the college of engineering at Pennsylvania State College, he later served with Henry L. Doherty Company at Toledo, Ohio, and after that with Surface Combustion Corp., Chicago, a Doherty subsidiary.

In 1925 he returned to Toledo as industrial gas engineer for Toledo Edison Co., another Doherty subsidiary. When the manufactured gas division was sold to Columbia Gas & Electric Corporation in 1928, Mr. Rainey joined The Ohio Fuel Gas Co., a Columbia subsidiary, as industrial sales manager at Toledo. In 1929 he was promoted to general sales manager of the Toledo district.

In 1930, he became industrial sales manager covering 12 operating districts, and in 1934, was promoted to general sales manager, a capacity in which he also directed business promotion activities. In 1948, he was made assistant to the president, C. I. Weaver. As Mr. Weaver's assistant, Mr. Rainey supervised The Ohio Fuel Gas Company's large volume sales of gas in the industrial, commercial and wholesale business. The last field involves gas sold by Ohio Fuel to other utilities, including The Cincinnati Gas & Electric Company and Dayton Power & Light Company.

F. T. Rainey

Personal and otherwise

Ingram made New Jersey utility official

EFFECTIVE November 1, 1949, Edward J. Ingram was appointed vice-president, in charge of sales and commercial activities, Jersey Central Power & Light Co., Asbury Park, New Jersey.

Mr. Ingram assumed the duties held by the late Thomas R. Dobson, who died suddenly on September 18.

A graduate of Massachusetts Institute of Technology, Mr. Ingram has been active in the gas and electric utility field for many years. He joined Jersey Central Power & Light Company from Reading, Pa., where for the past 15 years he had been associated with Metropolitan Edison Company in an executive capacity. Immediately prior to his acceptance of the Reading post in 1934, he was with Public Service Co., of Northern Illinois. He is a pioneer in the introduction of new applications for electricity and gas, including domestic house heating.

Young fills new Columbia Gas executive post

GEORGE S. YOUNG has been elected to the newly created office of executive vice-president, The Columbia Gas System, Inc., New York, N. Y.

Mr. Young has been active in American Gas Association for many years. In May 1948, he was appointed chairman of a committee of gas company executives to study FPC Docket R-107 amending FPC rules and regulations with respect to filing and posting of rate schedules and tariffs. The committee functioned as a vehicle for coordinating the activities of the industry and was instrumental in securing public hearings on this docket.

He has also served for a number of years on the Technical and Research Committee, A. G. A. Natural Gas Department, contributing substantially to the group's work in planning industrywide research which has forwarded the development and expansion of the natural gas business.

A graduate of U. S. Naval Academy, Mr. Young joined Columbia Gas System as an engineer in 1930. He was named vice-president of Columbia Engineering Corp., the system's service company, in 1942 and was made a director in 1945. He has been a director of The Columbia Gas System, Inc., the parent company, since 1946, and was elected a vice-president in May 1949.

G. S. Young

California companies promote Van Rensselaer

FOLLOWING the protracted illness of Otto C. Mauthe, manager of publications, Southern Counties Gas Company and Southern California Gas Co., J. T. Van Rensselaer, editor of publications, has been placed in charge of publicity and press relations as well as publications.

In his new position, Mr. Van Rensselaer has the title of supervisor of news and publications. He will direct the company publication as well as publicity and press relations activities. Mr. Mauthe has been active in American Gas Association as a member of the Publicity and Advertising Committee. Mr. Van Rensselaer is also a member of A. G. A.

Irene Muntz heads A.G.A. home service group

IRENE L. MUNTZ, director of home service, Rochester Gas and Electric Corp., Rochester, N. Y., has been appointed chairman, American Gas Association Home Service Committee by H. Preston Morehouse, chairman, A. G. A. Residential Gas Section.

Miss Muntz is a graduate in home economics of Mechanics Institute, now Rochester Institute of Technology, and of University of Rochester.

As a member of the home service department she was appointed director in 1942 of a staff of 13 serving Rochester and outlying territory. Home lighting and kitchen planning are included in the company's home service program.

In addition to her work as chairman of the A. G. A. Home Service Committee this year, Miss Muntz is also serving as president of the Women's Council, Rochester Chamber of Commerce, and chairman of the Home Safety Committee, New York State Home Economics Association.

Irene Muntz

Albrittain succeeds Tillman at Baltimore

MASON C. ALBRITTAIN has been appointed general manager of the industrial and commercial department, Consolidated Gas Electric Light and Power Co. of Baltimore, Baltimore, Md., succeeding Richard H. Tillman who retired October 1, 1949.

Mr. Tillman served with the company for 40 years, having started in 1909 as an industrial engineer. At the time of his retirement his activities had grown from a one-man operation to an organization of five departments with 118 employees, including responsibility for industrial and commercial sales of gas, electricity and steam. He is a member of American Gas Association.

Mr. Albrittain entered the company 25 years ago as a junior industrial engineering representative. In 1930 he became a senior industrial engineering representative. In 1942 he was transferred to the personnel department as assistant manager. He became assistant general manager, industrial and commercial department, on November 1, 1947.

R. H. Tillman

M. C. Albrittain

Peoples Natural Gas names

MARION M. THRASH has been appointed editorial director for The Peoples Natural Gas Co., Pittsburgh, Pennsylvania.

Following his graduation from University of Pittsburgh, Mr. Thrash joined the gas company in March 1949. During his military service he was for nine months editor of a daily newspaper in Bremen, Germany. Prior to military service he was for three years West Virginia editorial director of a tri-state labor newspaper.

United Engineers Appoints

OSCAR A. GRAY has been appointed sales engineer for United Engineers & Constructors, Inc., Philadelphia.

Mr. Gray has been an employee of The U.G.I. Contracting Company and United Engineers & Constructors, Inc. for 27 years. During that period he served as appraisal engineer, engineering assistant in the gas design division, construction superintendent supervising the construction and operation of water gas and coal gas plants, and supervising engineer in the gas design division. He is a licensed professional engineer, a member of American Gas Association and Pennsylvania Gas Association.

O. A. Gray

Delafield appointed

CHARLES B. DELAFIELD, assistant vice-president and assistant to the chairman of the board, Consolidated Edison Co. of New York, Inc., has been appointed chairman of the Public Utilities Division of The Lighthouse Men's Committee. The Lighthouse of The New York Association for the Blind, provides 28 free services in employment, training, adjustment and recreation for 4,149 blind of all ages, races and creeds.

Mr. Delafield is a member of American Gas Association and a director of Edison Electric Institute.

Blodgett appoints Grimes sales manager

APPOINTMENT of Paul C. Grimes as sales manager, The G. S. Blodgett Co., Inc., Burlington, Vt., was announced last month. Mr. Grimes has been with the company since 1939 when he first trained under R. M. Thomson as assistant field representative in the New England area.

During the war he served as food service supervisor for large groups of troops. Following his discharge from the Army in 1946, Mr. Grimes was appointed mid-west representative for Blodgett, operating out of Chicago.

He has had a wide and varied experience in baking and food service operations in the hotel, restaurant and institutional fields. Mr. Grimes will make his headquarters in New York City.

P. C. Grimes

Acker succeeds Whitwell on Laboratories group

COMPLETING 21 years of service on the Laboratories Managing Committee of American Gas Association, George E. Whitwell, vice-president in charge of sales, Philadelphia Electric Co., has resigned from the committee. He is succeeded by Ernest R. Acker, president and general manager, Central Hudson Gas & Electric Corp., Poughkeepsie, New York.

Mr. Whitwell was senior member of the committee in years of service and served as its chairman, 1941-1946. Desiring to retire for some time due to the pressure of other duties, Mr. Whitwell nevertheless carried on through the war as chairman and remained as a member afterwards to help with postwar readjustments.

Unusually active in American Gas Association affairs, Mr. Whitwell was a member of A. G. A. Advisory Council as well as chairman of numerous working committees. He is well known as co-inventor of the Young-Whitwell back-run gas process. A graduate of Massachusetts Institute of Technology, he has held important posts with Anaconda Copper Co., University of Washington, Tacoma Gas and Fuel Co., Byllesby Engineering and Management Corporation and Equitable Gas Company. In 1927 he joined Philadelphia Electric Company as general sales manager, becoming vice-president in charge of sales in 1931.

He won the 1940 Howard G. Ford Award of the Sales Managers' Association, and is active in U. S. Chamber of Commerce, having been reelected a director this year.

Mr. Acker served as A. G. A. president in 1944 and as chairman, A. G. A. PAR Committee, during its first three years.

He graduated from Cornell University and Harvard School of Business Administration. He joined Central Hudson in 1919 after serving for short periods with New York Central Railroad, Yonkers Electric Light and Power Co., and Bethlehem Steel Company.

G. E. Whitwell

E. R. Acker

Prior to his term as A. G. A. president, Mr. Acker served as vice-chairman and chairman of the Commercial Section, a member of the Advisory Council, as treasurer, and as vice-president. He also has been active in Empire State Gas and Electric Association, and Edison Electric Institute, having served as president of the latter group.

Medicine and the inner man

(Continued from page 4)

first aid for these specific injuries given concentrated attention, a much better first aid course will develop.

During this past year we have designed in our company a first aid course consisting of six two-hour sessions dealing with specific injuries that occur in our particular environment. Good immediate care of a fresh injury or accident will often prevent prolonged periods of convalescence and rehabilitation.

Most important phase of the industrial medical set up is prevention and a constructive medicine program. The first phase of the program of preventive medicine occurs with the first contact of the employee when he comes to the medical department for his placement examination.

The first examination is as complete as possible and includes not only a careful history and complete physical examination, but also a blood count, urine examination, and serology for a venereal disease. The employee is then graded according to his physical qualifications. Physical qualifications for a laborer are much more strict than those for a skilled employee, or one doing sedentary duty. A classification of "A" or "B" means that the employee is capable of doing any kind of physical labor. The "B" classification means that he has a correctible physical irregularity. A "C" classification means that the employee is o.k.'d for the specific duty for which he is employed, but can not be transferred to another department without being certified by the medical department.

The employee is routinely called back one month from the time of his employment, at which time an x-ray of the chest and electrocardiogram are taken. These tests will reveal early or latent diseases of the heart or lungs. If such are found, the problem is discussed with the employee and he is immediately sent to his own family doctor. Such routine chest x-rays on our placement examinations, as well as our periodic physical examinations, constitute the main portion of our tuberculosis control program. In many cases, tuberculosis is uncovered during the first month of employment.

This phase of industrial medicine provides the first opportunity for preventive medicine. An employee who applies for a job does not believe that he is ill. Early tuberculosis, early high blood pressure, early diabetes, are all symptomless, and unless an employee were applying for a position would not be discovered.

Mild irregularities in the patient's health do not prevent employment, but the man is immediately placed on a periodic call-back examination at frequent intervals to see that he is getting medical care and to follow the progress of early pathology. All employees are placed on some type of call-back, either at shorter intervals until some minor deformities have been corrected or until he is rescheduled for a complete periodic examination.

The next time the medical department has contact with the employee, aside from the physical examination, is through the medical counseling service. We ask employees to contact the medical department for both medical advice and counsel regarding their private medical problems.

The industrial physician now has an opportunity to step into the role of medical counselor and advisor. He is an ideal person to listen to the problems of an employee who will often be surprised at how rapidly such problems will disappear when he is met with sympathy and understanding. The quality of the industrial medical department can often be judged by the number of employees who seek medical advice regarding their personal medical problems. When one first meets the employee with a personality problem, the tendency of many people is to advise him to forget and to think that—"Well, he is just another screwball." However, time and understanding will often reveal that such employees are emotionally ill. It becomes the doctor's duty to hunt down this mental strain and relieve it, if possible.

Almost all phases of an industrial program have a preventive aspect. Preventive medicine and public health have for a long time been applied to the general population and now these principles are permeating industry. The phases of preventive medicine in industry include trained personnel in the medical department, preplacement and periodic examination, occupational diseases, safety program, environmental control, mass surveys, mental health, and finally, health education.

(1) Trained personnel in the medical department—it is important that medical personnel be equipped to understand and apply the technique and philosophy of a preventive program. When an employee comes to the medical department with a minor injury or illness, trained personnel may detect a problem of far greater significance to the patient than the immediate treatment of the minor ailment.

(2) Preplacement and periodic examination.

(3) Occupational diseases.

(4) Safety program—by keeping employees physically fit the safety program is benefited.

(5) Environmental control—strict supervision of the industrial environment presents many opportunities for preventive measures. Proper heating, ventilation, clean and adequate lockers and wash rooms, freedom from excessive noise—all are essential for healthy working conditions. Food sources both in and outside the plant should be inspected routinely, as well as any matters affecting the worker's health.

At the present time, attempts are being made to control upper respiratory infections by the use of such aids as spacing of workers, dust control and use of ethylene glycol.

(6) Mass surveys—for the control of venereal diseases and tuberculosis.

(7) A *mental health* program is extremely important in industrial health. Supervisors should always be aware of the importance of personal health problems of people under their direction. An employee who has only an imaginary headache and pain in his head because he is worried about home problems is just as inefficient as an employee who has a headache or a true brain tumor.

(8) Finally, a preventive medicine program should include *health education*. When an employee comes to the medical department for any reason, individual contact offers a good opportunity for health education. A few pointers on the value of proper diet, the importance of eating a good breakfast, and the benefits of adequate rest can be given in a few minutes. Pamphlets in the waiting room of the office, health posters, safety posters, and health articles in the house magazine are effective in building good health.

The best point to start a program of constructive medicine is during periodic physical examination. After the preliminary employee examination, everyone over the age of 45 is given a physical examination every two years, between 50 and 55 once a year, and over 55 it might be as often as twice a year.

Constructive medicine is the improvement of general health, but preventive medicine is the prevention of disease. Both are related, but one indicates a positive approach and the other an important but somewhat negative approach. It is in the field of constructive medicine that the future of industrial medicine lies.

A constructive health examination is made to detect not only early physical signs of disease, but also to investigate health habits in the daily plan of living; habits which may be faulty because they deprive the patient of the essentials of health. This may be fresh air, sunlight, proper food and food habits, regular exercise, adequate rest.

In a recent study of 738 executives, it was discovered that 88 were in the danger zone of being overweight. These 88 cases lost from five to 28 pounds of fat on an appropriate diet. A similar number (88) were underweight, and following a pattern of better nutrition, gained three to 15 pounds. Fourteen had high blood pressure with an average reduction of 20 points after this type of health clinic care. Thirty percent were referred to their family physician and dentist for correctible ailments. A check-up of the 24-hour period of activity showed that faulty health habits were occasioned chiefly by conditions outside of their work.

In posing a problem of constructive medicine in a patient who feels well, remember that unsolicited medical advice is almost invariably ignored. Until people are educated to seek health before they experience pain it will be impossible for them to appreciate what constitutes a good and efficient medical service.

We recognize that the constructive health program in our type of industry has to do primarily with degenerative diseases—cancer, high blood pressure, malnutrition, diabetes, metabolic disease, psychosomatic factors and mental hygiene—diseases concerned with both physical and mental aspects of an employee who is growing older.

The average age of our employee is above 40. In some departments of our industry we have men between 40 and 50 and older, who are constantly on the streets, climbing stairs, carrying heavy bags and lifting heavy equipment. These men may suffer diseases of the heart and blood vessels much earlier than the man of comparable age at a different type job. The task of placing such individuals in happy situations in the company is a difficult one, for theoretically they have many years before them.

Other men, doing active physical labor, performing dangerous occupations, may also suffer from the results of high blood pressure, heart and vascular diseases before the age of retirement. Those who do suffer these ailments represent a very definite medical problem. Adjustment and correlation with management regarding their working status are necessary. If these people can be seen before the onset of degenerative disease, if they can be advised regarding their working habits, their exercise, their nutritional state and their rest, we can prevent total disability or even death at the height of a man's economic status.

The results of degenerative diseases, such as heart attacks and strokes, may occur suddenly and unsuspectingly. They are extremely likely to occur in the executive branch of management—men who are highly trained in skills that represent years of training and large investment on the part of the company. The executive between the ages of 40 and 50 is an extremely important cog in the precision portion of the industrial machine. No company can afford to lose a man who represents such a high skill and financial factor.

As a result of our complete periodic physical and follow-up program on employees who are chronically ill, we have made one definite step forward in our medical-employee relationship program. After a complete physical examination, we know which ones are suffering from the potential dangers of degenerative diseases, which have heart disease and high blood pressure, as well as diseases of the kidneys and lungs, and which ones have developed in the year's interim between examinations.

We then contact the man's superintendent and discover exactly what kind of occupation he is doing, the hazards of the job, the exact amount of physical activity, the amount of stair climbing, the amount of physical and mental stress under which he works. We then sit down with top management in the particular line organization, along with the head of the personnel department, to discuss these problem cases. In conference, we decide the type of labor which this man can perform. Management tells us how they can best utilize the man in question and take an individual interest in him—discuss any wage differential problems with the medical and personnel authorities. Between us, we are able to take care of these employees often until the age of their retirement.

When management understands the medical problems involved, the socio-economic problems involved, and what the medical and personnel departments are trying to accomplish in constructive medicine, they are more than anxious to cooperate in carrying out these aims. In our company, everyone with a health handicap is under observation by both the medical department and management. He is under immediate supervision of the foreman or shop superintendent, who knows the medical problems of these individuals, and through understanding, guide them and apportion their work so that the employee remains efficient and useful as long as possible.

For instance, we have 200 men with heart trouble who are employed in shops and stations throughout the company. Each one is spotted and the work allotted in such a way that it allows the employee to carry on indefinitely. These men are periodically checked by the medical department, as often as one to three month intervals. The progress of the disease is noted, and surprisingly enough, as a result of cooperation and understanding, a regression rather than progression of the disease can often be found.

It is also surprising how often certain misunderstandings, mental and emotional conflicts, and minor annoyances will aggravate the employee with heart trouble, increasing his blood pressure and heart rate to such an extent that he immediately endangers his health. The mental strain under which an employee works is often more important than the physical strain. If he feels that he is constantly needled, if he is unhappy at his work; if he feels that

the superintendent has "it in for him"—these factors will seriously aggravate his physical conditon, regardless of the type of work he is doing.

A large part of a preventive medical program has to do with absenteeism. In the absence of definite malingering, the following points must always be considered:

(1) The employee may be one who gives in too easily to minor complaints.

(2) The employee may not be guarding his health properly.

(3) There is an underlying or emotional factor.

(4) He may be an alcoholic with a Monday hangover.

During the past year we have made a special study of absenteeism and have uncovered a great number of interesting facts and figures. In the first place, it is evident that absenteeism is prominent in certain departments, mostly those departments in which the work is not particularly interesting, stimulating, or pleasant. It reaches a maximum over a weekend, particularly on Monday or Tuesday, and interestingly enough, is at its minimum on pay day, regardless of the department. Only a small proportion of employees are responsible for the greatest number of days off, but these short one or two day absences over the year amount to a great many days off. Occasionally, the medical department is able to uncover a definite physical reason for an employee's illness. In a number of cases, the trouble is simply ignorance of the facts and the physician could perform a useful service by imparting these facts to an employee in such a way as to leave no doubt that the employee's health is his own responsibility.

The progressive shift in the age distribution of the population is constantly bringing to the fore industry's responsibility to its aging employees.

Despite the fact that in practically every industry responsible work is being done by men and women over 50, the general attitude towards the older employee continues to be that of general skepticism and under-evaluation.

It is true that there are unwelcome traits and personality difficulties which are characteristic in older people, but from an industrial standpoint, they are no more troublesome nor constitute any more cause for inefficiency than in the very young or new employees. Under normal circumstances, age brings better judgment, increased skill, fewer mistakes, and greater steadiness and dependability. Such qualities more than compensate for the gradual slowing of speed which is characteristic of age.

Certain definite personality changes are psychiatric in character, some of which can and some of which cannot be adequately treated. Some people are old anytime after the age of 45 and other people who pass through this period of 45 to 50 gracefully are perfectly capable of maintaining their jobs until well past 70, when they seem to have regained a second youth. Until we have adjusted our thinking to mental and physical rather than chronological age, we will not make much headway from the standpoint of retiring an elderly employee. We are handicapped by regulations which call for retirement at 65. In some cases this is too old and in others, too young.

In any event, we should definitely prepare older employees for retirement. The word "retirement" itself is wrong—"change of occupation" would be a much better term. The process of suddenly taking an employee out of an old and established routine with a specified day's job and placing him in the rocking chair of idleness causes rapid physical and mental degeneration.

It is not up to the medical or the personnel departments alone, but also to management to prepare people for retirement no later than five years before their actual retirement date. Some time during the latter years of their periodic physical examination, plans for retirement should be made. It is here that they should be encouraged in a productive avocation and be given a goal toward which they should strive.

Two years ago a large manufacturing firm in Detroit, after examining all their employees over the age of 55, conducted a careful survey into the social and family activities of these employees. They studied their avocations, family position, and attitude toward the time when they could not work but must live another type of life. From these studies they concluded that some instruction in the art of growing older might be helpful.

As a result of these studies, a series of discussions was conducted by University of Michigan for older employees. Three broad fields were discussed—financial, health, and social. In this period of strife when labor is constantly asking for more and better health plans, and particularly more and better pensions, it should be continually stressed that no pension can ever fill entirely the needs of retirement, no matter how great or adequate the monetary portion of this plan may be.

These people were taught to understand the problems of the psychological changes in older people and the importance of maintaining human relations which would best guarantee satisfaction. The advantages of rural living were discussed. It was pointed out that older people receive satisfaction in doing things that are useful, contribute to the welfare of the community, and provide pride in achievement. This experiment, first conducted on a small group at University of Michigan, has proved extremely profitable and is now being continued in its third year on much larger groups.

We believe that this type of instruction, guidance and help, is due employees who have served companies faithfully for 30, 40, or 50 years. A farewell dinner, a pat on the back, a gold watch, will never suffice the inner man.

We must realize that health is like liberty—it belongs to those who fight for it; it is a privilege granted to those who seek it; it is not inherent but must be earned, and it requires considerable initiative and perseverance to maintain.

All plants should have an organized health program that will carry with it authority and prestige and represents sincere interest of management in the health and welfare of each employee. Large concerns today are promoting a sound health program because they realize it means a higher rate of productivity and efficiency. They are doing everything possible to make employees realize that good health pays them individually.

Each employee has a very definite place in the industry in which he works—that place should be respected so that the employee's productive effort will lend a maximum contribution to over-all plant efficiency. Better health programs which are now part of the over-all picture of industrial relations will reap profits of better personnel, safety and productive results.

Internal control

(Continued from page 23)

ing on their own, depart from the prescribed routines. A proper division of duties, so that one person, or one department, checks on another is one phase of internal control which leads to assurance that changes in routines are not made without management's knowledge and approval. A well-manned internal audit staff is another.

An internal audit staff, acting as the eyes and ears of the higher echelons of management in observing the extent of the compliance with management's policies and in reviewing and appraising the effectiveness of those policies in operation, can be a strong element in a system of internal control and of great assistance to management. It is a management tool that should be carefully considered and employed where possible.

Another area in which internal control aids management in discharging its responsibilities is in safeguarding the organization's assets, particularly in the prevention and detection of fraud. It is in this area that internal control has traditionally been considered to be of particular significance and there is no doubt it is a very important function.

Estimates of the annual losses due to fraud are necessarily very uncertain. The figures I have seen, however, estimate the losses at from 400 million to one billion dollars a year. Those are very sizable sums and it would seem that business management should be glad to go to considerable lengths to reduce such losses. Despite the proven ability of a really effective system of internal control to eliminate or reduce such frauds in most cases, many business organizations have failed to take positive steps to establish such a system.

There will always be some areas where the cost of good internal control would exceed the value of the protection it would give. Management must calculate the risks of errors and irregularities when it is establishing a system of internal control. It is unlikely that complete protection against fraud can ever be provided. However, satisfactory protection can be achieved in most cases by making fraudulent actions difficult and by providing reasonable assurance that such actions cannot go undetected for long.

There is an assumption among many business men that the practice of bonding responsible employees provides a satisfactory substitute for effective internal control so far as protection against fraud is concerned. Bonding is a very important factor in internal control. Not only does it provide protection against discovered frauds, depending of course upon the coverage, it may also prevent fraud as a result of the investigations which bonding companies often make of covered employees.

Bonding has one major drawback, however. Bonding companies pay only when fraud is discovered and only to the extent of the loss revealed. Not infrequently, it is very difficult to prove the extent of the loss even when fraud is known to have occurred. It is far better to reduce the chances of fraud before they occur, and to provide assurance that they will not be permitted to assume major proportions, than it is to rely upon obtaining restitution at some later date. Without doubt the most satisfactory method of accomplishing that is to provide a well-conceived, carefully enforced system of internal control.

Primary responsibility for establishing and enforcing internal control rests with management. However, the extent to which such measures exist and are carried out is of great importance to independent certified public accountants. In selecting and applying his auditing procedures, the independent accountant is justified in relying to a considerable degree upon the effectiveness of the internal control within the client's organization. It is his duty to review the internal control and to determine the extent to which he may rely upon it. He may extend his investigations or restrict them.

I do not mean to imply that a good system of internal control would justify the complete elimination of all detailed checks by independent accountants. On the contrary, such detailed checks of a reasonable sample of the transactions form the basis for much of the reliance he places upon the internal control. The justification for the whole testing approach rests principally upon the belief that, if a representative sample of the transactions are handled properly, it is reasonable to conclude that the rest of the transactions have also been recorded properly. Thus, when the independent auditor discovers weaknesses in the internal control, he must pursue his inquiries further. Where his tests indicate that the internal control is good, he may restrict his inquiries.

The advantages of an effective system of internal control to management, so far as independent audits are concerned, are probably clear already. The employment of certified public accountants to perform detailed checking that could be done satisfactorily within the client's organization is not economical to the client. To the extent the independent account is able to reduce work of that type, the better he is able to direct his skills to services of greater value to the client, or to reduce his fee.

My objective has been to call to attention the more important advantages of an effective system of internal control. Although management must delegate much of its authority to subordinates, that delegation of authority has by no means been accompanied by a like delegation of the ultimate responsibility for the results of the company's endeavors or the consequences of its actions. On the contrary, management's responsibilities have constantly increased, particularly with respect to stockholders, to government, and to labor.

Those are heavy responsibilities. For its own protection, management must take all reasonable steps to discharge them adequately. One such step is the installation and supervision of an effective system of internal control adequate, first, to safeguard the assets of the company; second, to check the accuracy and reliability of the accounting data: third, to promote operational efficiency; and fourth, to encourage adherence to prescribed managerial policies. Such a system of internal control, requires an appropriate plan of organization, an adequate system of authorization and record procedures, the employment of sound practices in effectuating the plan of internal control; and, lastly, personnel of appropriate numbers and capabilities.

Italian gas contracts

CONTRACTS totalling approximately two million dollars have been signed by North American Utility & Construction Corp., New York, N. Y., to supply American equipment to the Italian gas industry.

Completed under ECA loan credits to Italy, the contracts provide for machinery to be used in rebuilding and expanding gas plants in Milano, Rome, Torino, Florence, San Remo, Ferrara, and other Italian cities. Also included will be gas generator sets to reform natural gas and propane. One plant will be the catalytic reforming type and another will be a reverse-flow carburetted water gas set. The contracts were signed with two prominent Italian gas companies—Italgas and Edison. American engineers will be dispatched to Italy to supervise the erection, make tests and start operations.

Home Service

(Continued from page 7)

Northampton, Mass.; Mrs. Pauline Treisch, The Tappan Stove Co., Mansfield, Ohio; Flora G. Dowler, The Manufacturers Light & Heat Co., Pittsburgh, Pa.; Kathryn A. Heffernen, Wisconsin Public Service Corp., Green Bay, Wisc.; Jane Schleicher, The East Ohio Gas Co., Cleveland, Ohio; Elizabeth J. Lynahan, The Peoples Gas Light & Coke Co., Chicago, Ill.; Mary Jean Apt, The Gas Service Co., Mission, Kan.; Irene Muntz, Rochester Gas & Electric Corp., Rochester, N. Y., chairman; Jessie McQueen, A. G. A. secretary; Mrs. Kathryn O. Johnson, Rockland Gas Co., Inc., Spring Valley, N. Y.; Martha Carnes, Servel, Inc., Evansville, Ind.; Julia Hunter, Lone Star Gas Co., Dallas, Texas; Mrs. Florence J. Neely, Consolidated Gas Electric Light & Power Co. of Baltimore, Baltimore, Md.; Mary E. Huck, The Ohio Fuel Gas Co., Columbus, Ohio; Mrs. Mary N. Hall, Elizabethtown Consolidated Gas Co., Elizabeth, N. J.; Thelma Hunter, New Bedford Gas & Edison Light Co., New Bedford, Mass.; Ruth B. Soule, The Brooklyn Union Gas Co.; Mrs. Eleanor V. Wiese, Public Service Electric & Gas Co., Newark, New Jersey.

Other members of the committee not present at the meeting were: Ruth D. Kruger, Central Arizona Light & Power Co., Phoenix, Ariz.; Vivian L. Marshall, New Orleans Public Service, Inc., New Orleans, La.; Gladys Price, Southern California Gas Co., Los Angeles, Calif.; Eleanor M. Morrison, Michigan Consolidated Gas Co., Grand Rapids, Mich.; Mildred R. Clark, Oklahoma Natural Gas Co., Tulsa, Okla.; Louise Sherred, Perth Amboy Gas Light Co., Perth Amboy, N. J.; Phyllis Snow, Mountain Fuel Supply Co., Salt Lake City, Utah; Mrs. Winifred Anderson, A. G. A. Laboratories, Cleveland, Ohio.

Duplicate regulation

(Continued from page 7)

the assertion of jurisdiction by FPC, to the extent which the Commission and its counsel claim the Natural Gas Act authorizes, will do untold harm to state regulation in a situation such as is involved in East Ohio.

The people of the State of Ohio have reserved certain powers to their local municipal governments through their state constitution. Among these is the power to fix and determine the rates which certain utilities, including natural gas companies, may charge for services rendered to the residents of their municipalities, and to prescribe such rates by ordinance. The municipalities have the further power to enter into contracts with respect to such rates and services.

If a natural gas company is unable or unwilling to accept the terms of a rate fixing ordinance, it may appeal to the Public Utilities Commission, whose duty it then becomes first to determine the reasonableness of the ordinance and if it is found to be reasonable the matter is at an end, subject to judicial review. If the ordinance is found to be unreasonable, the Commission's duty is to fix and determine just and reasonable rates and to order such rates to be substituted for the ordinance rates.

Now with respect to East Ohio, it has local franchises with some 69 municipalities, and with most, if not all of such municipalities, has entered into contracts with respect to rates and services.

In addition to East Ohio's negotiations with these several municipalities, the Public Utilities Commission has exercised its regulatory power in more than 250 proceedings, including rate case proceedings on appeal from city ordinances.

In any determination by the Ohio Commission of just and reasonable rates it is obviously necessary to determine, among other things, the cost of gas purchased or produced, and in cases such as East Ohio, to determine the cost of transportation of the gas from the point of purchase or production to the point of contact with the distribution system of a municipality—the city gate.

On the facts of East Ohio, this would involve an appropriate allocation of the transmission costs between all of the municipalities it serves. Historically, the Ohio Commission has made just such an allocation. The commission has always considered that for all regulatory purposes the pipelines of East Ohio beginning at the point of contact with the interstate pipelines were subject to Ohio jurisdiction—especially so for rate making purposes.

Rate regulation

We are now confronted with the claim of FPC and its counsel, as I have quoted them, that this segment, a vital one at that, is without the regulatory jurisdiction of the Ohio Commission. If this is true, what happens to rate regulation in Ohio?

Does it not follow that not only would FPC fix the price which East Ohio should pay for purchased gas but in some way, on the assumption of its authority to do so, would it not be required to ascertain the costs of the transmission to each of the 69 municipalities which the company serves, both for the gas it purchases and also for the gas it produces within Ohio?

Sec. 5 (b) of the Natural Gas Act provides:

"The Commission upon its own motion, or upon the request of any state commission, whenever it can do so without prejudice to the efficient and proper conduct of its affairs, may investigate and determine the cost of the . . . transportation of natural gas by a natural gas company in cases where the Commission has no authority to establish a rate governing the transportation or sale of such natural gas."

Would not the Ohio Commission be bound in any rate determination to consider as one of the elements of cost, the finding of FPC with respect to such transportation costs? If this effect were to be given to such a finding I assume that East Ohio would insist that the finding be subject to judicial review. To qualify the finding for review a record and findings would have to be made by FPC in the cost determination proceedings. But even then would the FPC finding be a reviewable order since the same would not become operative upon East Ohio until the Ohio Commission affirmatively applied the results of such determination?

In Federal Power Commission v. Hope Natural Gas Co. (1943) 320 US 591, 619, the Supreme Court in its discussion of findings of the FPC respecting the lawfulness of findings of the FPC regarding the lawfulness of past rates charged by Hope to East Ohio, said:

"The Commission has no authority to enforce these findings. They are 'the exercise solely of the functions of investigation.' . . . They are only a preliminary, interim step towards possible future action—action not by the Commission but by wholly independent agencies. The outcome of those proceedings may turn on factors other than these findings. These findings may never result in the respondent feeling the pinch of administrative action."

If, as counsel for FPC claims, the State of Ohio is without regulatory jurisdiction over East Ohio's pipelines except from the "town-border stations" to the consumers' burner tips, then how and in what manner can the Ohio Commission or any municipality, except by some concurrent action by FPC, determine the price which the consumers should pay for the 25 percent of East Ohio's gas which is produced and comes from wells located in Ohio but which is

transmitted in pipelines which FPC claims are under its sole jurisdiction?

Are the pipelines which simultaneously carry gas which is produced in Ohio, with that produced elsewhere, subject to the dual jurisdiction of the State of Ohio and FPC?

Could FPC authorize the abandonment of these pipelines which carry both gas which has moved in interstate commerce and that which has come from Ohio wells without regard to the laws of Ohio?

Will it be necessary each time that the Ohio Commmission is required to fix rates for any one of the 69 municipalities or for any of the service areas East Ohio serves, that FPC determine the costs of the transmission of the gas served to each?

Will FPC in the course of time have the power to say to East Ohio, whom it shall and shall not supply natural gas irrespective of the desires of the municipalities of the State of Ohio and without the concurrence of the Public Utilities Commission of Ohio?

Cannot FPC, under its claim of authority, regulate and control every natural gas company within the State of Ohio irrespective of the length of the "stub line" which feeds its distribution system?

If any of these situations, or any one of many others which could be mentioned, should arise, or necessarily follow from the assertion of Federal Power, then clearly the salutary objective would be thwarted which the Supreme Court in the Hope Case said the Natural Gas Act was intended to accomplish, namely:

". . . the bill was designed to take 'no authority from State Commissions' and was so drawn as to complement and in no matter usurp State regulatory authority."

State and local regulation would be hopelessly confused and interminably delayed.

It is well known that Ohio is not the only state affected. FPC has clearly indicated the distance it proposes to go in extending its jurisdiction over matters heretofore covered by state regulatory authority. In its petition for certiorari in the East Ohio Case it stated:

"There are now pending before the Commission 43 similar cases which involve, as here, transportation in interstate commerce wholly within a single state."

I am advised that formal proceedings now involve companies doing business in Ohio, Indiana, Iowa, Illinois, Michigan and New York. The remaining 35 cases have been subject to Commission staff studies and their identity has not been formally disclosed.

In due course, the Supreme Court of the United States will announce to us what the Congress intended. In the meantime, and at all times, it is the right and the duty of every state and of every citizen to seek by judicial interpretation, by petition to their representatives in Congress and by the ballot itself, the retention, and, if necessary, the restoration, of the rights and privileges which they believe should not be exercised by a central government.

What are thoughtful people saying today? Here is the recent testimony of another contemporary thinker, James F. Byrnes, former Justice of the U. S. Supreme Court:

"Too many people are trying to transfer power to government. Power once transferred to government is difficult to recover. Power intoxicates men. When a man is intoxicated by alcohol he can recover, but when intoxicated by power he seldom recovers.

"We are not only transferring too much power from the individual to government but we are also transferring too many powers of the state governments to the federal government."

The National Association of Railroad and Utilities Commissioners, composed of the Commissions of 47 states, Securities and Exchange Commission, Federal Communications Commission, Interstate Commerce Commission and Federal Power Commission, has consistently sought to preserve to the states the regulation of public utilities to the extent that the Federal Constitution permits. Beyond that, as an association, it has fostered and supported federal action to the end that there shall be no gap in effective regulation.

To the accomplishment of these objectives it has supported legislation in the Congress, has cooperated with the several Federal Commissions, and has supported them in those matters beyond the ambit of state control. It has likewise resisted by appropriate intervention in the courts federal assertion of jurisdiction in matters which it judged to be an encroachment upon state jurisdiction. It has encouraged and supported legislation to restore state jurisdiction. It clearly appears that it shall continue to do all of these things.

Confused and overlapping regulation is poor regulation. It is beyond the competence of any federal agency to supervise and regulate effectively the multitudinous details of pubilc utility regulation which the full assertion of federal power (as now construed) would entail.

The seemingly interminable controversy between federal and state regulatory agencies is a disservice to the public interest. Time which should be devoted by these agencies in the discharge of duties which each in its own sphere can most effectively handle is being needlessly employed in jurisdictional controversy.

The time is long past due when further Congressional action should be taken to spell out in language of greater clarity, if such language can be found, the proposition that the jurisdiction of Federal Power Commission and any other Federal body shall not extend to any matter which is subject to regulation by the states. The intent of Congress and not "the philosophy and views of those entrusted with the administration" of its acts must govern. Otherwise we shall have more, not less, of government by men and not by law.

Metal Show

(Continued from page 25)

steel industry. He deplored the necessity for industrywide negotiations as compared with individual agreements.

The first meeting of the new Metals Committee, Ralph L. Melaney, chairman, was held immediately following the breakfast.

The annual banquet of ASM was held on October 20 at the Hotel Statler with Charles R. Cox, president, Carnegie-Illinois Steel Corp., as guest speaker. He traced the technical developments of the steel industry for the past 100 years and stated that today "the steel industry rests in the laps of American metallurgists for its very existence."

Mr. Cox explained that this condition has been brought about by the depletion of high grade ores and low ash coal. Metallurgists will have to find a way to produce good iron and steel from these poorer raw materials and at lower production costs, he declared. A. G. A. utilization research on combustion is expected to lead the way to increased gas usage in this field.

Selling new big jobs

(Continued from page 28)

in importance, to the sanitary aspect. These incinerator surveys indicate also that, the longer the unit was in use, the more it was appreciated.

How then, are we going to sell gas-fired incinerators?

(1) Dramatize both the need for such an appliance and the methods of selling it.

(2) Review your own experience and sales record with the representatives of manufacturers. Formulate a city-wide, selling campaign and win the support of local dealers in training, both a selling force and an installation facility.

(3) Dispel the tradition or habit of disposing of trash in the same old way. Many families would gladly change their habits if they had complete information on what an incinerator could do for them.

(4) Builders of new homes purchase more incinerators than any other single group. However, incinerators are being installed in many large scale housing projects. Contact the leaders of such enterprises.

(5) Give full attention, not only to old and new homes, but to commercial applications as well.

All-year gas air-conditioner

All-year gas air-conditioning, conceived for the gas industry, pioneered by the gas industry and developed and refined with the cooperation of the gas industry, is ready to do a real job of load building for gas companies that aggressively merchandise this third new big job.

In perhaps one of the best papers ever written on this subject, "What About All-Year Gas Air-Conditioning," available from American Gas Association, Frank C. Smith, president, Houston Natural Gas Corp., said, "I shall make no effort to 'sell' you on the advantages of temperature and humidity control in summer air conditioning with the use of gas.

"What it can do for the customer is so well known to all of you, we can dismiss it with the simple observation that, once more, the health and comfort of the customer has been greatly improved, summer and winter, and he has been offered one more home service which makes him truly independent of the weather."

By far the most important question is, not only, "What will it do for the utility" but also, "Will the gas utilities have the enterprise to support the manufacturers, who have made it part of their business to promote gas load with this new appliance?"

Let's see what the year 'round conditioner will do:

(1) It will fill in your summer valley. Even in Northern cities, cooling load is nearly twice that of the annual range, refrigerator, and water heater load combined. Frank Smith's papers, afford details and pertinent figures for your study. No equipment ever built for the gas industry offers a more desirable combination of load features. Net annual income rises, without expansion of capital investment for production and distribution. Net return on capital investment is also higher, since plant and distribution facilities operate more nearly at capacity all year long.

(2) A year 'round air conditioner consumes more gas than any other domestic appliance. The average, annual load of one residential, all-year gas air conditioner equals the annual load of 23 gas refrigerators, of 25 gas ranges or 17 gas water heaters.

(3) It insures your base load. Perhaps, no other gas appliance does as much to produce "all-gas" homes as the all-year gas air conditioner.

(4) It is a fact that the economics of energy distribution favors gas for cooling.

(5) All-year gas air conditioning demonstrates the modernity of gas. These new gas units will help convince people that gas is the most modern fuel.

The age of all-year gas air conditioning is here now!

(1) As proof of this growing acceptance for air conditioning, both residential and commercial, I submit the result of a recent survey which indicates that the total tonnage sold by the industry, in the three post-war years, is roughly equivalent to the tonnage sold in all prewar years.

(2) Perhaps one of the most encouraging recent developments is the residential market opportunity, now an actuality, in the medium-priced home field. Homes in the $15,000 class are now prospects which are being closed daily for year round conditioners.

(3) The market is now broadening geographically. Southern Gas Association gives interesting details on active programs conducted by the Southern and Southwestern pioneers in this field. However, The American Builder, for June, 1949, illustrates a new point in a write-up, telling of medium priced houses, sponsored by dealers in Wichita, Columbus, Anniston and Sacramento. These medium-priced model homes, show that the all-year, gas air conditioner is a perfect adjunct for modern home design.

The architect, David Searcey Barrows, states that the additional cost of the air conditioner, over and above a normal heating plant, can be offset through the elimination of standard units required in the typical house. For instance, a house designed for air conditioning needs no basement excavation. It needs no porch. Outside doors and windows may be kept closed, in fact in many cases, the glass may be fixed, thereby permitting a simple, wood frame to be used. Thus, screens and storm sash need not be used—that means a big saving in the cost of these items.

Yes, people want to buy. Statistics indicate that they are buying.

(1) When an industry sells in three postwar years, with the many gas restrictions which have been in force, a tonnage equal to that sold in all pre-war years, people are substantially indicating that they want to buy.

(2) Some Southern cities are now selling 200 to 800 units annually. However, one of the A. G. A. award papers I helped review this year, indicated sales of over 40 units last year in a northern industrial town, made up principally of good, hard-working Americans with very few wealthy inhabitants.

Here are seven points in a plan of action, designed to sell gas air conditioning and advocated by A. G. A. All-Year Gas Air Conditioning Committee:

(1) Pick and train your men.

(2) Develop prospect lists.

(3) Contact your manufacturers' gas air conditioning representative.

(4) Call on architects and builders.

(5) Start your promotional program.

(6) Cash in on any local opportunity to promote all-year, gas air conditioning. Tell your story to civic groups, appear at home shows, send out newspaper stories, get into model homes, identify local, gas air conditioned buildings.

(7) Install an all-year gas air conditioner in your office. Let your office be a top notch testimonial for, and demon-

strator of, the year 'round comfort provided by gas.

The winning paper recently prepared for the Servel award, gives complete details on how you can sell air conditioning. It's good for medium, and larger cities and towns. Other papers show remarkable accomplishments in small towns. Make it your business to learn how to get your share of the all-year, air conditioning market.

The three new big jobs are gas laundry dryers, gas-fired incinerators, and all-year gas air conditioners. Paraphrasing Mr. Churchill, never have so many people in the entire gas industry depended on so few—those who represent its sales management.

Par Plan

(Continued from page 10)

penditures of the utilities and manufacturers, they are particularly effective because they coordinate the expenditures of these groups and supplement them in certain fields which round out an industrywide program.

Under the national advertising program, for the first time, a balance has been reached in national consumer magazine advertising as between space devoted to gas and to electric cooking. To accomplish this, we added PAR dollars to those spent by gas range manufacturers with the result that the total slightly exceeds the total of all consumer magazine advertising on electric ranges. This is still short of the ideal situation, as gas ranges are produced in quantities two to three times those of electric ranges. It shows substantial progress, however, by comparison with the pre-PAR situation.

Industrial and commercial gas advertising continues at a satisfactory level and together with domestic gas advertising ties together, through a consistent theme, the advertising of utility and manufacturer members as well as other promotional work of the Association.

In the educational field, straightforward and realistic work with educators has opened an opportunity to tell the story of American industry, and particularly of the gas industry, to a whole generation of new homemakers.

Important features of the industry's promotional work are—participation in national trade shows, relations with the motion picture industry to insure the maximum use of gas appliances in the pictures currently produced, contact with magazine editors to promote feature stories on gas appliances, and arrangements for commercial cooking schools, which have already been held under the auspices of 23 member companies.

Aside from this, the promotional bureau of the Association produces a wealth of sales material and sales manuals for use by member companies at the point-of-sale. This material, which is coordinated in theme, is of vital importance to the sales organizations of the industry and represents a major portion of the work of the promotional bureau. In addition, the Bureau has conceived and organized effective industrywide selling campaigns covering the New Freedom Gas Kitchen, the 1949 Old Stove Round-Up, "Gas Has Got It," and others which are an important factor in the current sales programs of the industry.

These and many other activities are conducted under the supervision of the General Promotional Planning Committee of the PAR program working through the Promotion Bureau at Association headquarters. They have involved a gross expenditure for the past Association year of $340,000. Against this the bureau has collected $140,000 for sales materials purchased by member companies leaving a net expenditure of $200,000 for the promotional activities of the plan. The promotional bureau fills a long felt need in the industry and I am confident that it will result in improved returns from every promotional dollar spent by both gas companies and manufacturers.

Thus we have a balanced program appealing to all sections of the industry. Every expenditure for research, promotion or advertising is carefully screened by competent personnel so that a reasonable relationship between these three elements of the plan may be constantly maintained for the benefit of the industry as a whole.

From my standpoint as an executive, we have in the PAR Plan an unparalleled example of industry cooperation through which we may confidently expect to safeguard the future of our business. In your own interest and for the benefit of the gas industry as a whole, I urge your active and enthusiastic support of the work of the PAR Committee.

CONVENTION CALENDAR

1950

JANUARY

4-6 •A. G. A. Home Service Workshop, Palmer House, Chicago, Ill.

MARCH

23-24 • New England Gas Association, Hotel Statler, Boston, Mass.
27-29 •A. G. A. Mid-West Regional Gas Sales Conference, Edgewater Beach Hotel, Chicago, Ill.
27-29 •Southern Gas Association, Galveston, Texas
31 •The Maryland Utilities Association, Lord Baltimore, Baltimore, Md.

APRIL

3-5 •A. G. A. Distribution, Motor Vehicle & Corrosion Conference, Book Cadillac Hotel, Detroit, Mich.
4-6 •A. G. A. Sales Conference, Industrial & Commercial Gas Section, St. Louis, Mo.
10-12 •Mid-West Gas Association, Hotel Lowry, St. Paul, Minn.
11-13 •Southwestern Gas Measurement Short Course, University of Oklahoma, Norman, Okla.
17-19 •National Conference of Electric and Gas Utility Accountants, Brown Hotel, Louisville, Ky.
20-22 •Florida-Georgia Gas Association, annual business conference, Biltmore Hotel, Palm Beach, Fla.
28-29 •Indiana Gas Association, French Lick Springs Hotel, French Lick, Ind.

MAY

1-5 •A. G. A. Commercial Gas School, Hotel Gibson, Cincinnati, Ohio
8-9 •A. G. A. Natural Gas Department, Spring Meeting, Mayo Hotel, Tulsa, Okla.
8-12 •American Foundryman's Association, Cleveland, Ohio (A. G. A. will exhibit).
2nd week Liquefied Petroleum Gas Association, annual convention and tradeshow, Palmer House, Chicago, Ill.
16-18 •Pennsylvania Gas Association, Galen Hall, Wernersville, Pa.
22-24 •A. G. A. Production and Chemical Conference, Hotel New Yorker, N. Y.
23-26 •National Restaurant Association, Navy Pier, Chicago, Ill. (A. G. A. will exhibit)
28-30 •GAMA annual meeting, The Greenbrier, White Sulphur Springs, W. Va.

JUNE

19-24 •Canadian Gas Association, annual convention, Manoir Richelieu Hotel, Murray Bay, Province of Quebec, Canada

Personnel service

SERVICES OFFERED

Gas Engineer—Graduate, long supervisory experience in all phases carburetted water gas plant erection, maintenance, and production. Preparation of all reports, payrolls, etc.; by-product coke plant experience. Familiar with industrial utilization of manufactured, natural and LP-gases. **1628.**

Draftsman—Civil Engineering drafting. Patent drawings, topographic maps, statistical charts, rendering of industrial building designs. Two years' recent college training. Desires connection with large organization in or near New York City. **1630.**

Manager—Engineer employed seeks wider responsibilities. Experience, training in operation six carburetted water gas properties. Construction propane-air plants, change-over from Manufactured Gas. Experience high and low pressure distribution, servicing, management, sales, commercial activities, system planning, load forecasting. College graduate, married, 20 years in industry. Excellent references. (40). **1631.**

Corrosion Engineer—B.S., technical education. 5 years' experience underground and underwater cathodic protection work, include pipe and cable line surveys of soil resistivity, galvanic or stray current, pipe or cable line potential, water resistivity and pH measurements; design of cathodic protection system based on test results. Married. (32). **1632.**

Gas Engineer—Long experience construction, operation and maintenance of retorts, coke ovens, carburetted water gas sets, by-product recovery, purification, and some distribution. Understands utilization of natural, propane, High-Btu and catalytically cracked gases. Graduate. **1633.**

20 years' in **transmission, distribution** and **utilization** of natural gas with small utility company. Broad experience including executive. Salary open. (43). **1634.**

Mechanical Engineer. B.S.M.E. 1947. Six months' experience in carburetted water gas plant, two years' administrative engineering in power plant construction. Desires position in gas generation and distribution. Quick at learning new processes. Not afraid to get hands dirty. Military experience in handling men. Good future primary object. (27). **1635.**

Gas Sales Engineer—Twenty years' experience including New Business Manager in charge sales and engineering in Utility Companies. Also with Manufacturers of heating equipment and domestic gas appliances. Qualified in dealer contact work including selling, service, and engineering. Desires position Metropolitan area New York City. **1636.**

Employee and **Public Relations**—Well rounded experience in analyzing public opinion and developing programs. Over three years' publicity, presentations, speaking, radio, meetings, etc. Eight years' previous experience in industry. Administrator and supervisor. Engineering degree. **1637.**

Distribution Engineer—Wide experience in design, extension, maintenance high and low pressure distribution systems large area; regulator installation, operation and maintenance; training and supervision of customer service, street department and office personnel; operation and maintenance of steam and gas driven pumping stations and wet and dry holders. M.E. (46). **1638.**

POSITIONS OPEN

Thoroughly experienced and capable **manager** for combination gas and electric property located in Southwest. Only men of proven ability with good records of accomplishment need apply. Send complete resume, snapshot photograph, references, and statement of present and expected salary. **0563.**

Engineer—Gas—Experienced in production processes, treatment and mixing of manufactured and natural gases and chemical research and development connected with improved utilization, such as catalytic cracking, etc. Executive position with commensurate salary in production engineering department of a large eastern gas manufacturing company. Applicants should be between 35 and 50 years of age, graduates of a recognized engineering school and have a professional engineer's license. Your reply giving age, education and work experience will be treated in complete confidence. **0564.**

Eastern Utility converting to Natural Gas has an opening for **Sales Engineer** for the promotion of gas fuel in industrial plants. Must be familiar with the economies of Natural Gas as compared with competing fuels and qualified to recommend gas equipment for various industrial heating processes. Require at least five years' experience in this type of work. Please enclose recent snapshot and give age, education, etc., salary desired. **0565.**

Newly formed gas company fifty miles north of New York City requires services of **Gas Engineer** to set up **Distribution** system, supervise construction and prepare rate and construction estimates, and to generally operate this company with approximately 4000 potential meters. State age, salary expected, etc. **0567.**

Chief Engineer—Oil and Gas Fired Domestic Heating Equipment. Well established Mid-West Manufacturer needs engineer thoroughly experienced in both oil and gas equipment, capable of taking full charge of design, development, testing and obtaining of approvals of new models domestic oil and gas burners, furnaces, boilers, and water heaters; and of supervising assistant engineers. Inquiries will be kept confidential when requested. Our employees know of this opening. **0568.**

Distribution Superintendent or **Manager** for growing company—construction or sales experience with ability to maintain good customer relations desirable. About 1,500 customers. Location New York State or New Jersey. **0569.**

Sales Manager and **Salesman** for several gas properties, one recently converted to natural gas; no heating restrictions. Many new building developments. About 8,000 customers. Location New Jersey and New York. **0570.**

Gas Engineer—Opening for gas engineer with at least five years general experience in natural gas business. Work in distribution and utilization phases of business particularly important. Location, Northwest, and position will involve some travel. Under 35. **0571.**

Home Economist for a new Home Service Department for a gas company in middle west. State qualifications and experience, age, salary expected, and enclose picture. **0572.**

Higher Btu gases

(Continued from page 31)

tions, based on our experiences with elevating the heating value of gas to 660 and 951 Btu.

660 Btu gas

(1) A company need not experience any serious difficulty in raising the heating value to 660.

(2) All existing appliances (with the exception of the gas refrigerator) now properly adjusted will operate satisfactorily on 660 Btu gas—those not properly adjusted can be adjusted for 660.

(3) Gas refrigerators can be preadjusted so they will operate on either 528 or 660.

(4) The cost of customer changes will probably run between $1.25 to $1.50 per meter.

(5) The amount of the holder cost saving will depend on local conditions. For the companies listed, the savings varied from 2-4 cents per Mcf.

(6) No capital expenditure required.

(7) Both plant and distribution capacities will be increased 25 percent.

(8) The customer reaction is good.

951 Btu gas

(1) Most of the existing appliances can be modified to perform satisfactorily on the higher Btu gas.

(2) A few burners will need to be replaced.

(3) The customer cost should not exceed $12 and we believe it should be under $10 per customer.

(4) Plant investment costs will depend on existing conditions and whether the two-shell or four-shell heavy oil operation is installed. In any event, it probably will not increase plant investments by 15 percent.

(5) A production saving of 15-20 cents per Mcf (including fixed charges) might well be realized.

(6) The plant and distribution system capacities will be increased by 70-80 percent.

(7) Plant changes will be useful if and when natural gas arrives.

(8) The customer appliance changes are the same general type that will be required for natural gas. Thus it is expected that most of the appliances will need no further adjustment. All new appliances are natural gas or mixed gas appliances.

(9) Even if natural gas does not arrive, the company that installs oil gas is expanding its operations in the most economical manner.

Do you know of any industry that can increase its plant and distribution capacity some 80 percent or more, through adding less than ten percent to its total investment and at the same time reduce its production cost 20-30 percent? This is what our manufactured gas companies can do by installation of Hall high Btu oil gas process and distribution of a high Btu gas!

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